Scale Models

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MAY 1970

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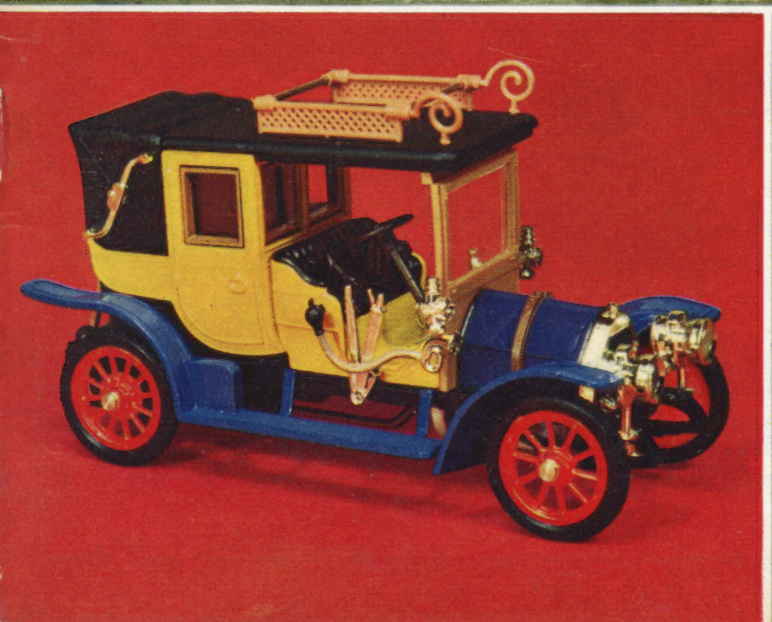

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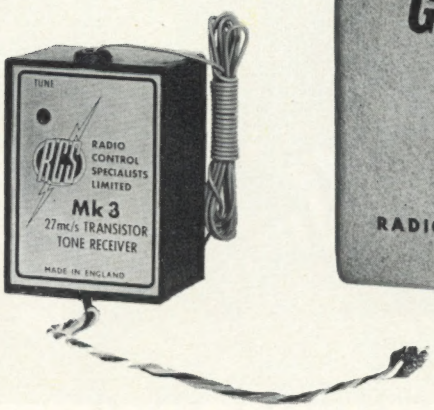

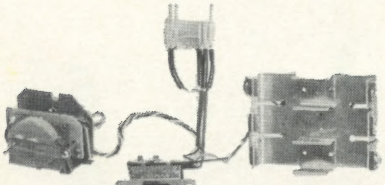

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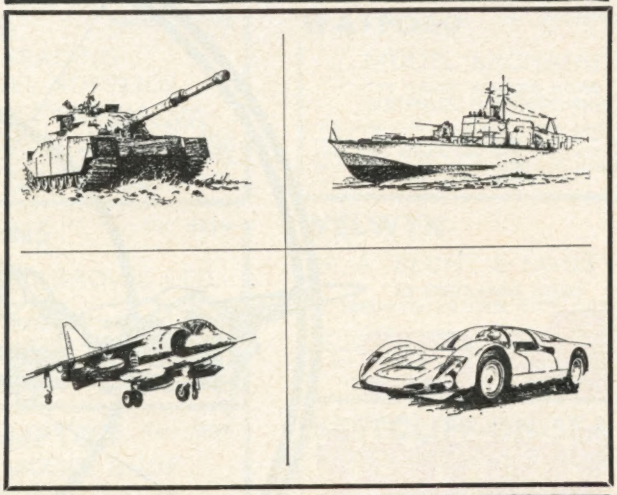

on the cover

Cole Palen's well-used Sopwith Snipe at his Rhinebeck airstrip in New York State, U.S.A. Flown regularly from the tree-lined undulating take-off area the Snipe has some fascinating hangar-mates including a Sopwith Pup, a Camel under reconstruction, a Fokker DVII and a Fokker Triplane. Bottom left is the Italian Rio die-cast 1/43rd Scale veteran 1908 FIAT 18/24 h.p. combined Plastic and Metal model. One of 44 in the range imported by Model Time of Croydon; cost 32/11d. Bottom right: two fine Rose Miniatures in tin alloy reproduced exact size in 55 mm. scale; left, a Staff Colonel of the Hussars, Caron d'Hevilley 1801; right, Officer of the Black Watch 42nd Regiment 1880-1914.

next month

Hordes of new items in 'New to You', Modelling the SU-100, with special hints on a display arrangement. Latest Decals. Modelling the Martin Baker MB5 fighter in Polystyrene card. Sopwith Camel Colours, with last round-up of Sopwith Survivors. Book and Miniature Figure reviews, out May 8th.

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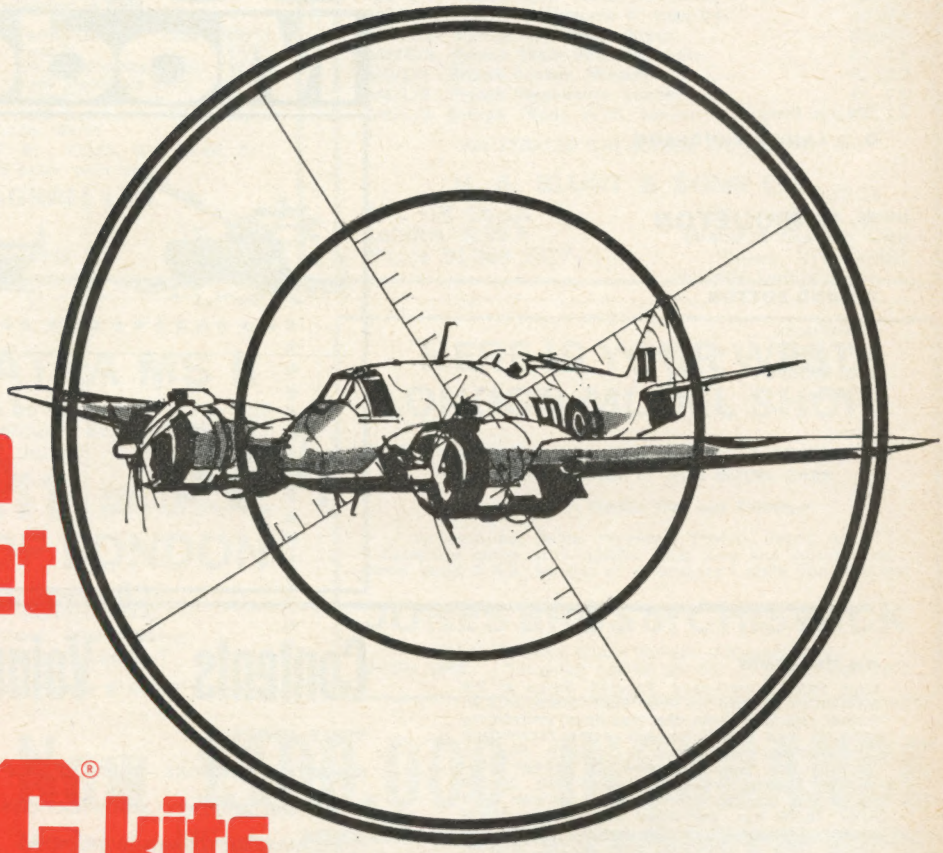

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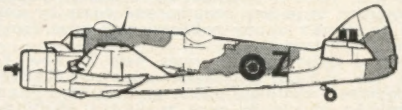

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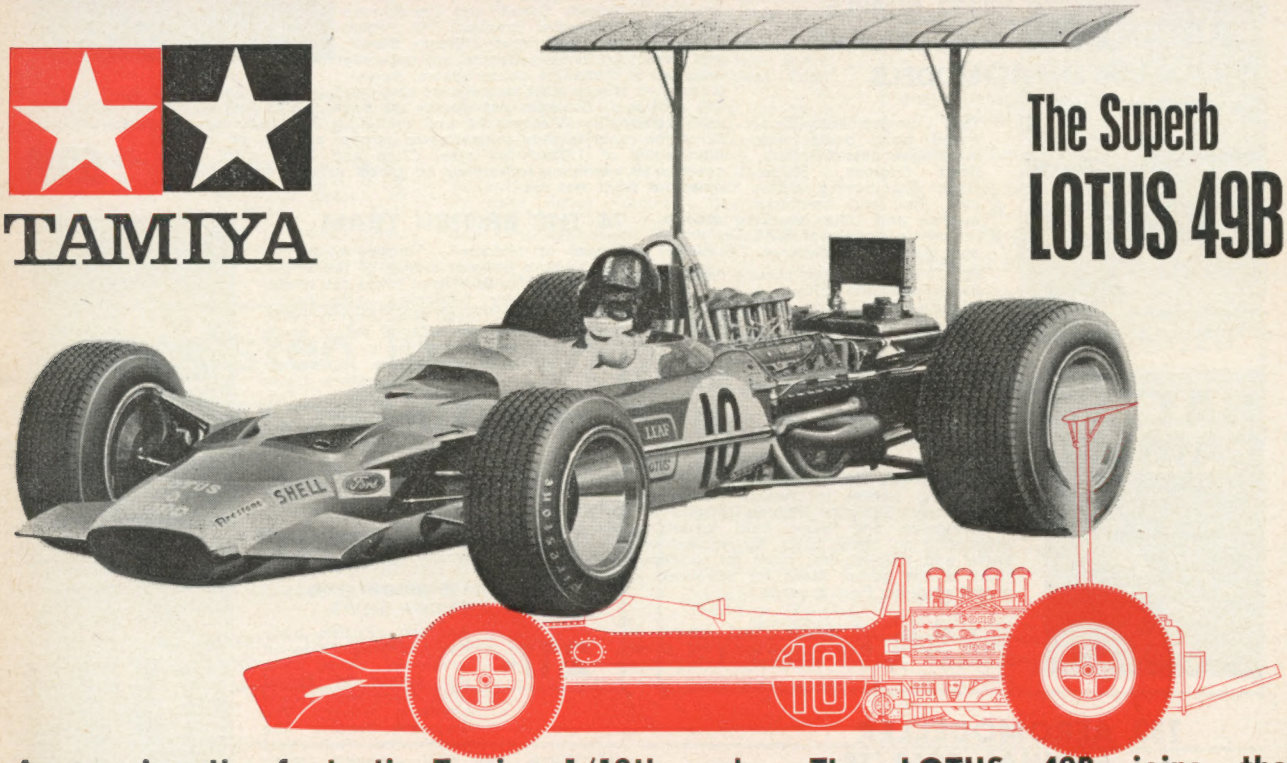

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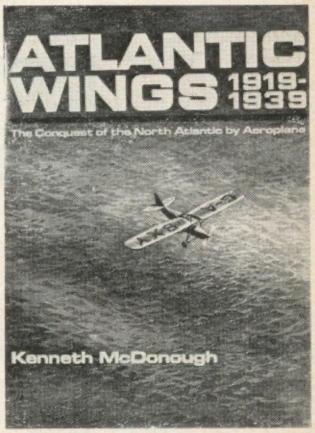

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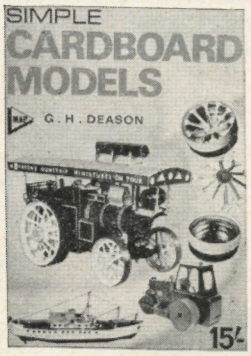

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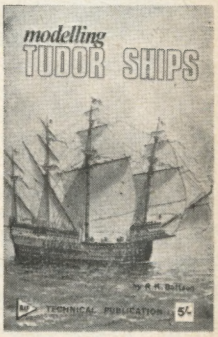

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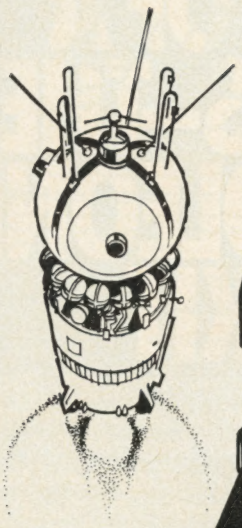

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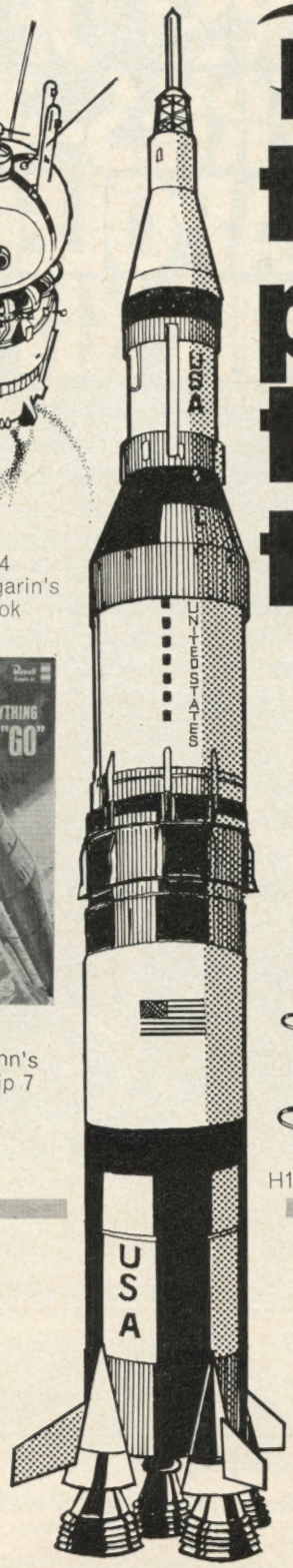

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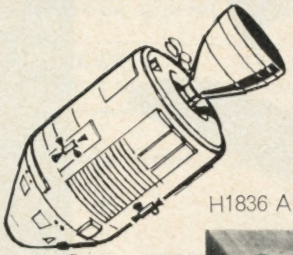

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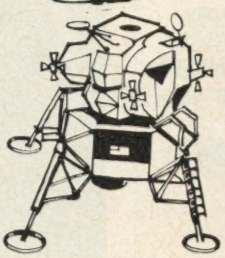

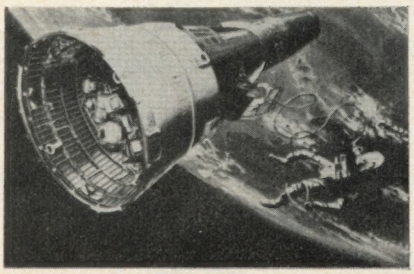

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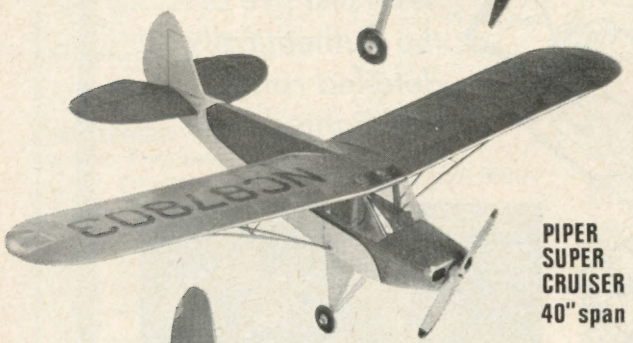

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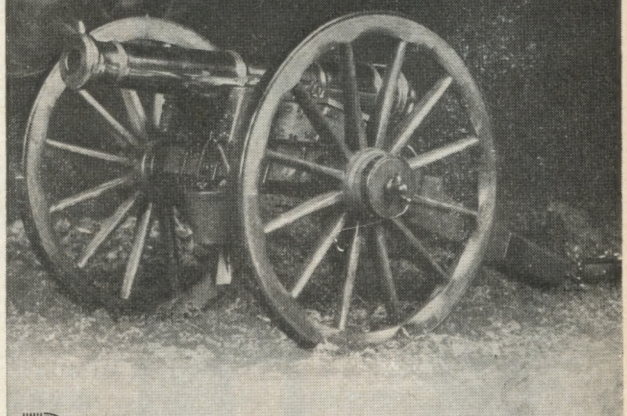

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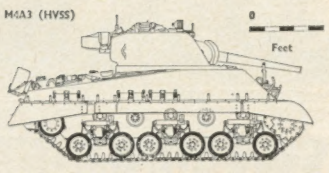

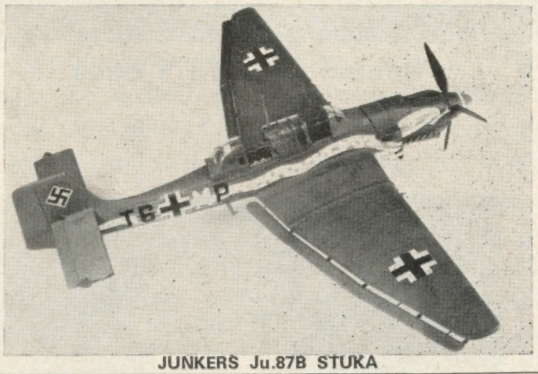

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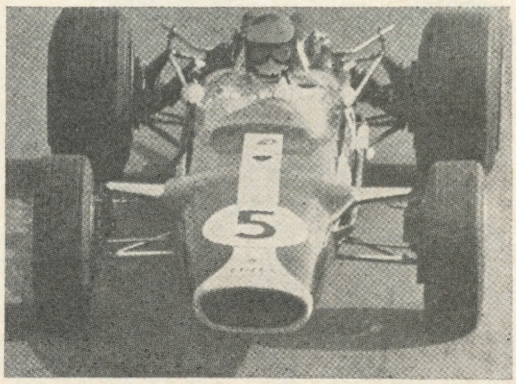

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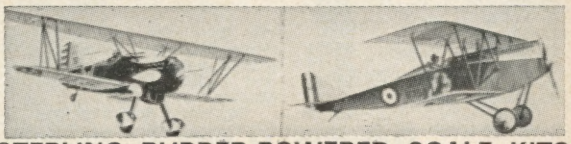

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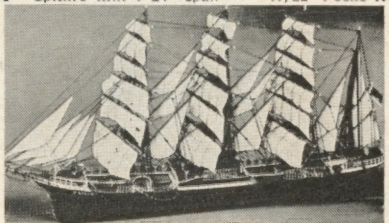

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Illustrated catalogue 2/6

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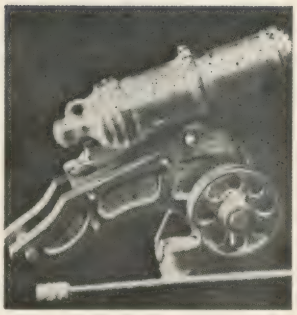

ME/G/1	British 9 pdr. Gun, 1800-1860	£2 10 9
ME/G/2	British 32 pdr. Carronade, Wood Carriage	£1 0 9
ME/G/3	British 32 pdr. Carronade, Iron Carriage	17 5
ME/G/4	French 6" Howitzer (Gribeauval)	£2 10 9
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30mm MODELS (all supplied assembled)

ME/30/1	British 9 pdr. Gun (Waterloo/Crimea Period)	13/6
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ME/30/4	British 24 pdr. Gun, 1705-1770	15/–
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ANCIENT ERA

ROMAN EMPIRE *c.* **60 A.D.**

RE1	Mounted Legate
RE2	Praetorian Centurion, crested helmet and cloak
RE3	Praetorian Guardsman, half armour, pilum and shield
RE4	Praetorian Guardsman, parade dress, half armour, pilum, shield, cloak and crested helmet
RE5	Legionary Centurion
RE5A	Legionary Centurion, parade dress, transverse crested helmet
RE6	Legionary, half armour, pilum and shield
RE6A	Legionary marching, half armour, pilum and shield
RE7	Legionary, parade dress, half armour, pilum, shield and crested helmet
RE8	Signifer (Standard Bearer)
RE8A	Praetorian (Standard Bearer)
RE9	Aquilifer (Eagle Bearer)
RE10	Cornicer (Trumpeter)
RE11	Auxiliary Legionary, leather armour, pilum and shield
RE12	Auxiliary Slinger with shield, unarmoured
RE13	Auxiliary Archer, leather armour
RE14	Auxiliary Javelinman, leather armour and shield
RE14A	Auxiliary Light Javelinman with shield, unarmoured
RE14B	Auxiliary, leather armour, spear and shield
RE15	Artilleryman with ballista javelin
RE16	Artilleryman with catapult stone
RE17	Artilleryman standing
REC1	Cavalry Officer
REC2	Cavalry Standard Bearer
REC3	Cavalryman, half armour, spear and shield
REC4	Cavalryman, leather armour, javelin and shield
REC5	African Auxiliary Cavalryman with javelin and shield, unarmoured
REC6	Cavalryman, parade dress, half armour, spear, shield and cloak

CARTHAGE *c.* **200 B.C.**

C1	Infantryman, half armour, shield and pike
C6	Officer, crested helmet, leopard skin cloak
C7	Standard Bearer
C9	Drummer

PERSIAN EMPIRE *c.* **500 B.C.**

PE1	Mounted General
PE2	Immortal, half armour, spear and shield, bow in case
PE4	Infantryman with spear and shield, bow in case, unarmoured
PE5	Archer firing, unarmoured
PE7	Officer
PE8	Standard Bearer
PEC1	Cavalry Officer
PEC2	Cavalryman with spear and bow in case, unarmoured
PEC3	Cavalryman, half armour, spear and shield
PEC4	Cavalryman with spear and shield, bow in case unarmoured
PEC6	Cataphract, full mail with spear and shield, bow in case and armoured horse
PEA1	Egyptian Auxiliary, half armour, spear and shield
PEA2	Assyrian Auxiliary, full mail, spear and shield, bow in case
PEA3	Phrygian Auxiliary, half armour, spear and shield, crested helmet
PEA4	Phrygian Auxiliary, half armour and long axe, crested helmet
PEAC1	Assyrian Auxiliary Horse Archer
PEAC2	Camel Corps with spear and shield
PEAC3	Camel Corps with spear and shield, bow in case

GREECE *c.* **490 B.C.**

G2	Hoplite (for use with phalanx) with pike, Corinthian type helmet crested
G3	Hoplite with spear, Corinthian helmet crested
G4	Officer, Corinthian helmet crested with cloak
G5	Standard Bearer
G6	Trumpeter
G8	Archer with cuirass, attic helmet crested
G10	Slinger with shield, unarmoured
G11	Peltast with javelin, unarmoured
GC4	Cavalryman with javelin, unarmoured
GC5	Cavalryman, leather armour, spear and shield, attic helmet crested

GAULS *c.* **60 A.D.**

GA3	Officer, crested helmet, half armour
GA4	Infantryman with spear and shield, unarmoured
GA5	Trumpeter
GAC1	Cavalryman with spear and shield, and cloak, unarmoured

EQUIPMENT

V4	Heavy Caraballista

MEDIEVAL ERA *c.* **1300**

M1	Foot Soldier with poleaxe
M2	Foot Soldier with long spear and shield
MC1	Mounted Knight with lance and shield

NAPOLEONIC ERA

British Infantry	Highlander
French Infantry	Grenadier of the Guard
	Fusilier
	Line Grenadier
French Cavalry	Mameluke
	Cuirassier
	Chasseur a Cheval
	Hussar

WORLD WAR II

MG1	German Infantry with rifle and bayonet
MG2	German Panzer Grenadier with S.M.G.
MG3	German Officer kneeling, holding luger, binoculars
MG4	German Infantry kneeling
MG5	German Infantry kneeling, holding ammunition belt
MG6	German machine gun and tripod

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THE ROYAL ARTILLERY, CRIMEAN WAR, 1854-1855
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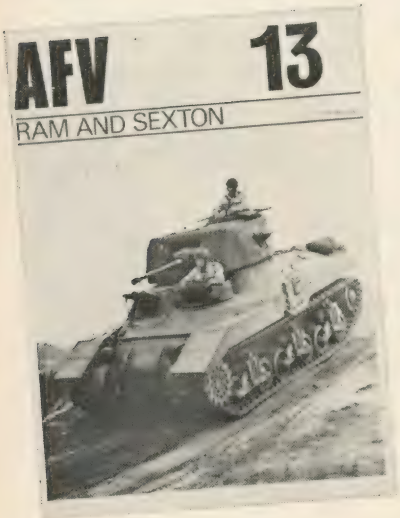

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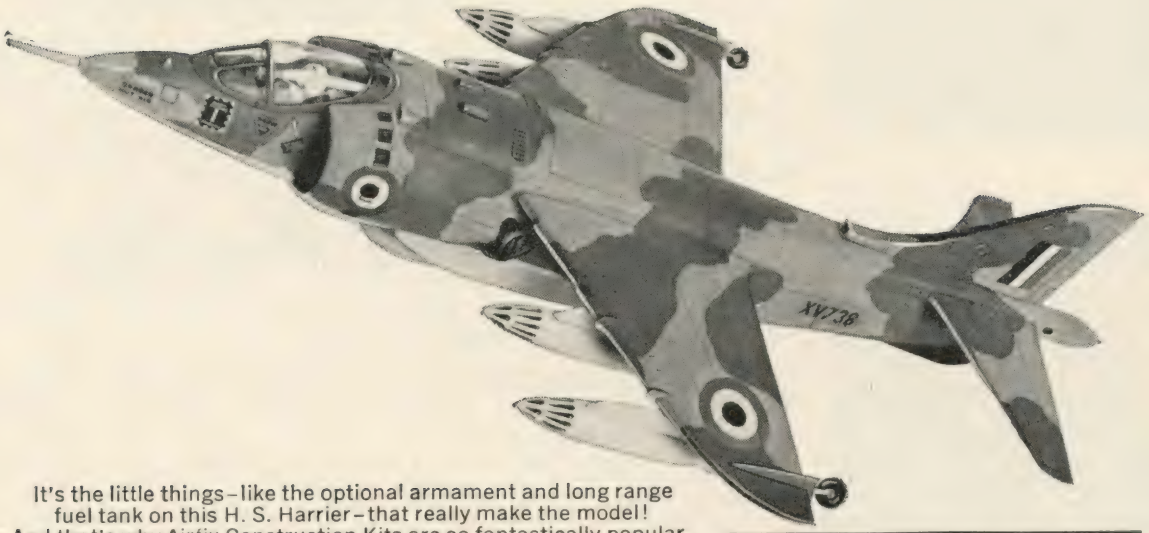

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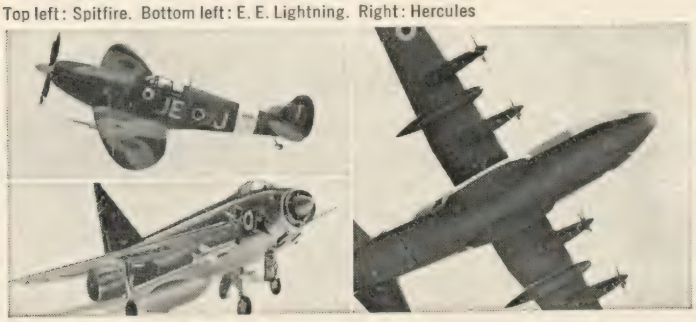
Top left: Spitfire. Bottom left: E. E. Lightning. Right: Hercules



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SCALE TOPICS

Shunsako Tamiya presents a Lotus 49B model to Bette Hill, with Graham Hill (centre) at a special reception in London.

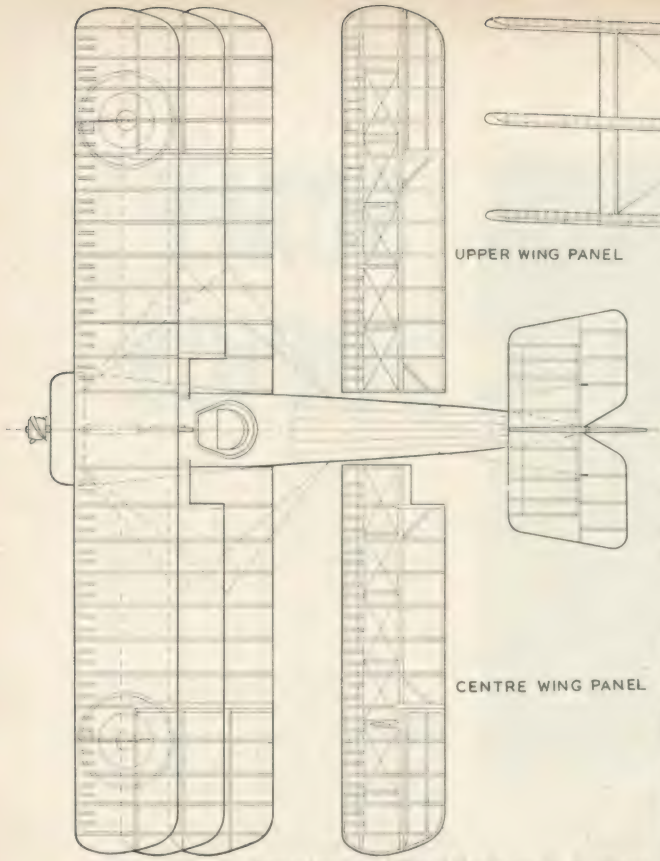
WORLD travelling Tamiya brothers from the famous Japanese family of Plastic Kit makers are now regular visitors to this country each February. In a month's whirlwind tour they take turns to accumulate references for new kits, attend trade fairs in the U.S.A. and Germany and visit their agents. We had the double pleasure of meeting Mr. Tamiya and his works manager with the Directors 'stranger in the camp' for we are the first to admit that our knowledge of the subject of wargaming and soldier collecting is strictly limited. But far from being bewildered by militant company, we found ourselves overwhelmed by hospitality and a keenness to inform. The degree of skills in finishing and animating are nothing short of amazing to the layman. One can readily understand the infection of model soldier enthusiasm and appreciate why this aspect of scale modelling is expanding so rapidly.

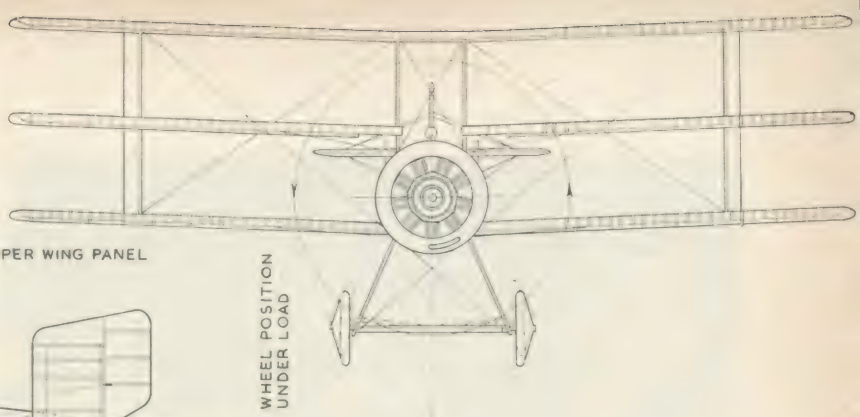
When we featured the auction of model soldiers in February edition we mentioned that there were likely to be more auctions in future, and as Philips Son and Neale announce in their advertisement we have not had to wait too long. Models in general are rapidly gaining 'collectors value', and have become regarded as an investment item. A recent survey came to the conclusion that it is always the well made unusual model which fetches a good price. Most valuable are the gone models of Three Masted Sailing Ships as made by Napoleonic Prisoners of War. Working models do not have any extra value, and steam driven ships or traction engines are best sold in fresh colours. Top price reached so far in any auction of models is 2,800 *guineas*. This was for a horse-drawn steam fire engine made between 1885 and 1890 by American William Scott. Other exceptionally highly valued items have been Locos and traction engines at over 1,200 guineas, Bone ships for 1,300 guineas, Beam engines at 1,500 guineas and a Textile Mill for 1,100 guineas. Moral is to search that attic – *NOW*!

of Richard Kohnstam. Fascinating table-talk revealed that among the countless 35 mm. casettes in the baggage due to return to Tokyo next day were pictures from the Ontario (California) Museum, the Imperial War Museum (London) and the Deutches Museum (Munich) – and that wasn't all! Quite how they do it we'll never discover; but on the morning of their last day they extracted vast quantities of drawings from a manufacturer's office for a new project, and had met all the useful contacts it normally takes a lifetime to foster! Enterprise truly pays off!

Another pleasant experience of the month was our visit to a branch meeting of the Miniature Soldier Society. One might term this as a

After the all-black Israeli Spitfire in January issue, Doug McHard searched his neg files and produced an all-white equivalent, as flown from R.A.F. Wellesbourne, Mountford. At right, Miniature Soldier Society, meetings attract a fine fellowship; this is but a small part of a recent Midland gathering at a member's home.





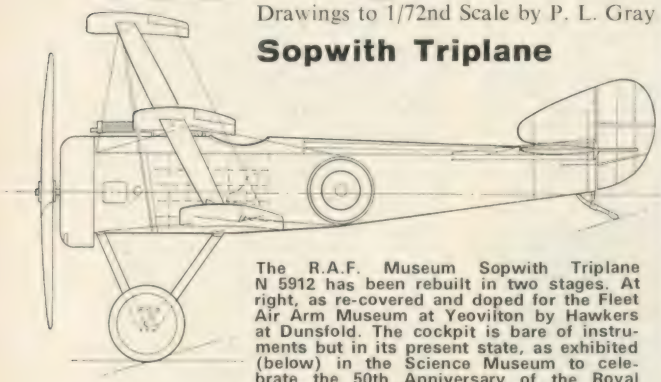
Sopwith Survivors

PART TWO – TRIPLANE, PUP & SNIPE

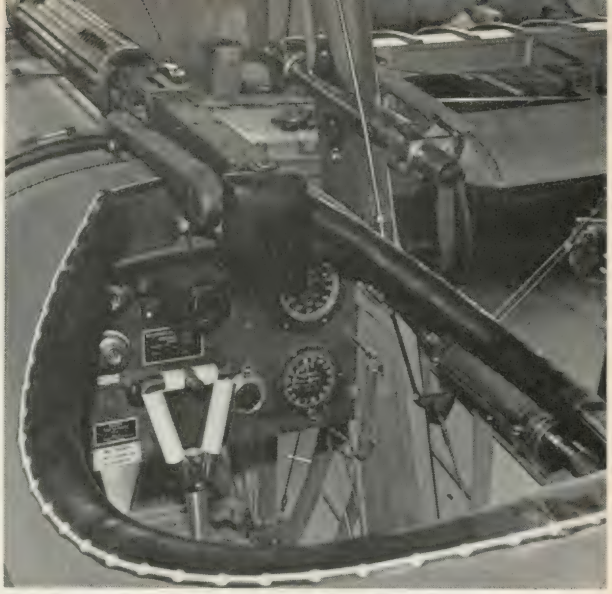
Continuation of Leslie Hunt's feature covers three more famous Kingston types, and each is illustrated with a 1/72nd scaled drawing for modelling. Les described the whereabouts of all known Sopwith Survivors in the first part of his feature last month.

Drawings to 1/72nd Scale by P. L. Gray

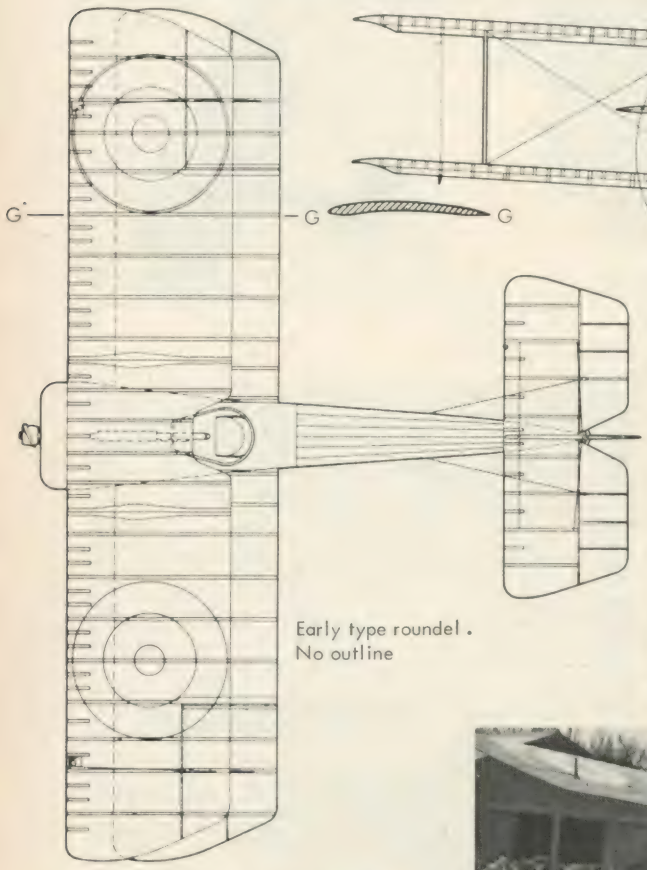
Sopwith Triplane

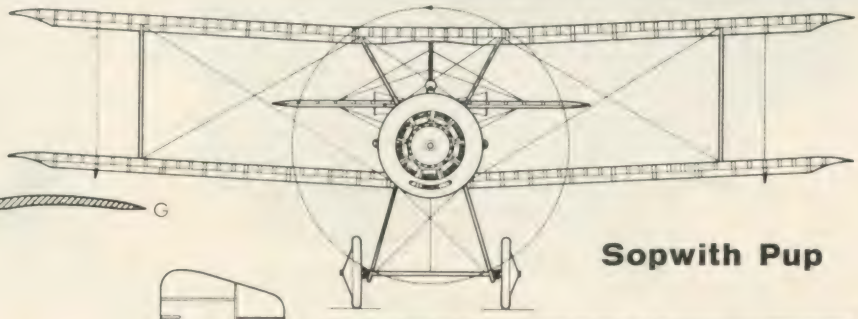


The R.A.F. Museum Sopwith Triplane N 5912 has been rebuilt in two stages. At right, as re-covered and doped for the Fleet Air Arm Museum at Yeovilton by Hawkers at Dunsfold. The cockpit is bare of instruments but in its present state, as exhibited (below) in the Science Museum to celebrate the 50th Anniversary of the Royal Air Force, it has new colouring and a polished cowling. It will eventually go on display at Hendon.



Carl Swanson's magnificent Sopwith Triplane replica, made as the 'Collishaw' machine for the Museum at Rockcliffe, Canada is almost 'better than new'. Fully instrumented and armed, it has been made to original drawings and is a classic example of the highest standards of replica construction.





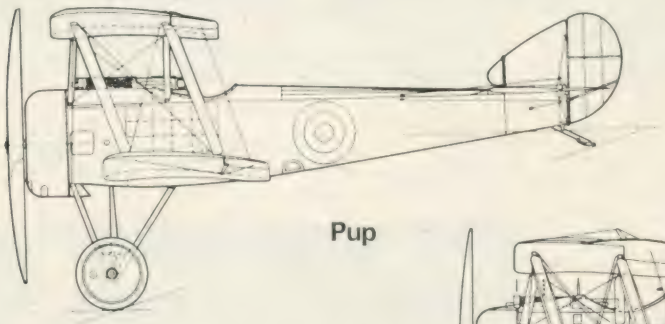
Sopwith Pup

Early type roundel.
No outline

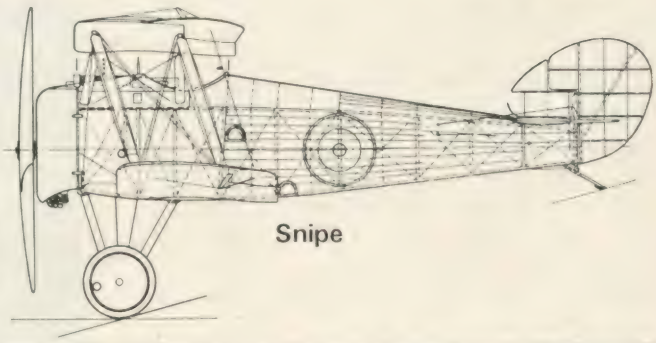
The well known Shuttleworth Collection Sopwith Pup – or 'Dove' in its 1969 colours. Now recovered after overhaul it is P.C.10 Khaki-Brown and will thrill the crowds at the 1970 displays – upper photo shows 'Flt. Sgt.' Malcolm Frazer 'RFC' in uniform, as were all the rest of the Museum Staff for the RFC Pageant at Old Warden. Originally registered G-EBKY as a two seat 'Dove' it is now serial N5180 and is usually flown by Des Penrose of Hawker Siddeley (Hatfield).

Made by Richard King of Rhinebeck, N.Y. whilst still learning to fly an Aeronca Champ and intended to celebrate the 50th anniversary of the first Deck Landing (Mediterranean politics prevented the Royal Navy from making a Carrier available) this Pup was built exactly to Sopwith drawings except for use of steel tube in fuselage. Dick King flies it regularly at the Cole Palen air strip.

Right: The Shuttleworth Pup, always immaculate and a regular flying star at the Old Warden air displays (as below right). The cowling is slightly different from that on the drawings, having a greater area cutaway at lower rear section and no cooling intake slot. Having a large tail surface, the Pup is always a popular flying model subject.



Pup



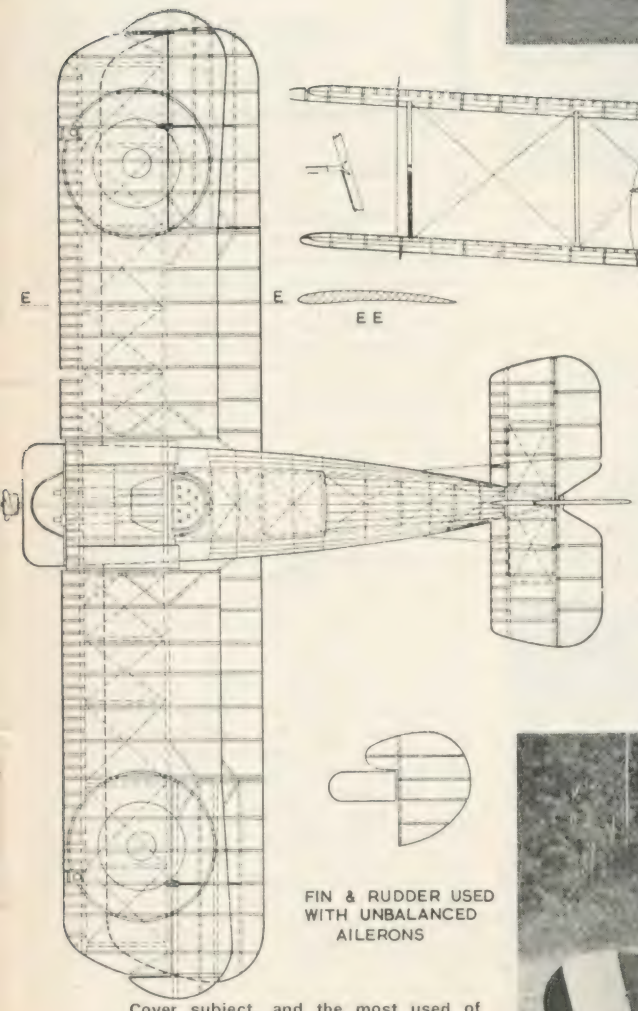
Snipe

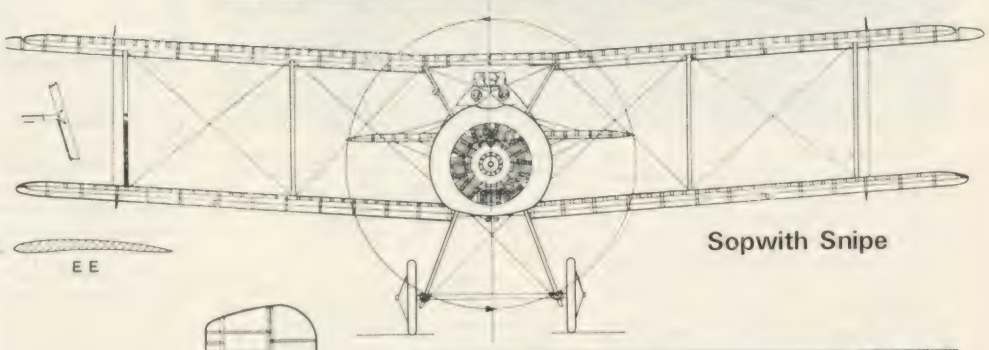
Drawings to 1/72nd Scale by P. L. Gray

The number of Sopwith preservations and replicas is such that this feature will be concluded in yet a third part, dealing with the Sopwith 1A2, 1½ Strutter, and the 'Baby' next month when we also hope to include a feature on Camel Colours and sketch detail of great value to all modellers.

A legendary Sopwith Snipe, E 8102 in which the Canadian Ace Major Barker gained his Victoria Cross whilst with No. 201 Squadron Royal Air Force in October 1918. It is kept at the Canadian War Museum, Ottawa.

Sopwith 7F1 Snipe E 6938 was built by Ruston Procter and Co. of Lincoln in 1918. During 1926 it was exported to film star Reginald Denny in Hollywood. After a mixed career, it was rebuilt completely by the late Jack Canary over an 8-year period and subsequently sold to the Canadian War Museum in 1964. Maintained in excellent condition, it is airworthy, and flown on special occasions at Rockcliffe.





Sopwith Snipe

FIN & RUDDER USED WITH UNBALANCED AILERONS

Cover subject, and the most used of all the Sopwith Survivors is Cole Palen's Snipe, seen here in two guises as E 8100 and E 8105. Background illustrates the state of the Rhinebeck airstrip through the woods. Most of Cole Palen's aircraft adopt a new colour scheme after encounters with the foliage!

MILITARY MINIATURE MODIFICATI

Bill Hearne concludes on plastic figures with colouring, making cords, plus use of the little

An example of the leather painting technique as described in the text. The same formula was used on the riding boots of this flyer's equipment to good advantage.

COMMENCING this, the final instalment of Military Miniature Modifications, I find myself in something of a minor quandary. Over the past months in *Scale Models* I've endeavoured to pass on some of my techniques and methods developed or discovered over several years of modelling. I've never professed these ideas to be anything like the last word because I'm sure that there must be a wealth of ways – doubtless many of your own – far more practical and expedient than some of those I've suggested. However, I do hope that somewhere in those yards of text you've come across something of which you've been able to make use. All that I had to say resulted from hard-earned experience, well founded and certainly workable and I trust they'll do for you what they've done for me. Anyway, let's get to why I remark that I'm in a minor quandary. Well, the answer is a £3 17s. 6d. one; in short, I've discovered the Pyrogravure!

Perhaps you'll remember my remarking in an earlier edition of *Scale Models* that I'd received the long-awaited instrument. But I didn't put it immediately to use plodding on in my old, primitive way. One day though, thinking that it would serve a particular purpose on a job, I found myself involved in, I dug it out. What a revelation! Since that time my Pyrogravure has been hardly out of my hand because, so help me, I've quickly come to discover that this must surely be the most useful tool the plastic modeller, nay, *any* modeller could have in his possession.

Whether it be for military miniatures, A.F.V., cars, planes or whatever you knuckle on to, an investment in this piece of equipment must pay dividends in time, effort and results. For example, body putty becomes practically obsolete for filling and building-up for all you need do is melt a blob of scrap plastic on the point of the instrument, apply it in a molten state to smooth it in or build-up as you desire. Because it blends naturally and firmly and hardens completely in a second or two you can right away go to work on the finishing with files and such. No waiting, no crumbling and no frustrating bits falling out: pesky things you've suffered for too long. No! Mr. Editor Sir, this is *not* a sales pitch for the Historex agent and his fast disappearing stocks of Pyrogravures, just a sincere, enthusiastic appraisal of a tool which can really prove a boon to plastic and all members of the modelling fraternity.

This last part in the series is intended as something of a round-up

A photograph of the author's particular Pyrogravure showing the five different points which are interchangeable with the handle. Also seen is the transformer which supplies varying degrees of heat.

ONS

his informative series special hints on buttons and a display case appreciated 'Pyrogravure'

of wrinkles which might prove useful in your modelling activities. Painting is a vitally important part in the finalisation of military miniatures but which greatly boils down to the individual and what he wants to achieve. Nonetheless, I think that a couple of my techniques in this regard might be welcome and not taken issue with. Firstly, the matter of flesh colour and the approach to face painting which is probably one of the toughest aspects of the whole painting business. I find that designer's gouache is excellent for the purpose and it takes extremely well to polystyrene. Sometimes when painting a non-porous surface with water colour there is a tendency for it not to take here and there, perhaps because of a little finger grease resulting from handling. This can be overcome by adding just a spot of liquid detergent to your mixes.

My individual colours for the creation of flesh are, Grey No. 1 instead of white, Flame Red, Yellow Ochre and Raw Umber with Black, to hand for deepening the basic colour for lining around eyes and between the lips, etc. On a suitable pallette place *separate* spots of these colours and, with your brush, draw from each to work up that which to your eye most approximates the tone of flesh. It's a good idea to check periodically by putting a spot on the back of your hand to see how it matches up. When you think you've got it apply an overall coat to the entire face. Following this, apply shadowing by darkening *only part* of the original flesh-colour by mixing in small quantities of Raw Umber and touching in on the sides of the nose, in the eye sockets, under the brows, below the nose, under the lower lip

As much as the author cannot explain why the figure is in the position that it's in, it serves again to illustrate the 'leather technique. In colour you'd see this coat as being more *worn* than that of the other.

and beneath the chin. A touch of Flame Red should be introduced and applied to the cheeks, the temples and the jaw line and gently blended in. Apply a slightly darker mix for any lines on the face as for example, from the nostrils to the corners of the mouth, from the lower cheek bone down to the chin. Now highlight with lines of No. 1 Grey down the nose and on the nostrils, on the top of the cheeks below the eyes, on the brow over the eyes and on the point of the chin. Lips can be a bit tricky and to avoid that doll-like appearance which can occur, increase, but slightly, with Red the basic flesh colour and apply to the mouth.

The most important part of this procedure is the delicate blending of one colour into another and it is this vital aspect which must be mastered for a thoroughly convincing job. The eye ball is, naturally, painted white as much as there are many who employ a touch of blue and place a point of red in the nose corners although this latter touch suggests to me the owner's had a mighty rough night. I don't employ the technique since, in nature, it is not that apparent. Something which has always irritated me with Historex is their insistence in including the pupil of the eye in the moulding rather than leaving the plain ball so that one has the option of placing the eye looking in any direction one wishes without fear of paint running into this pesky little depression and causing the subject to have either caste or crossed eyes. Frankly, I wish they'd desist in this practise. Personally I like to place the eyes where *I* want them and not pre-located by an engraver. Anyhow, paint in the pupil according to the colour of the hair and outline them in accordance with your chosen complexion for the model.

When it comes to painting that which represents cloth, I go strictly for a completely matt finish and use Blackwell's oil-bound poster colours available from the Historex agent. However, with these, as with Humbrol uniform colours, I find that going over the same area several times does tend to introduce an undesirable sheen.

Leather finish

For downright flat finish I strongly recommend gouache and it's good to remember that Raw Umber *is* khaki. Another effect which some find hard to achieve is a satisfactory 'leather' finish and you might be interested to know of my method. For the basic brown tone I use Humbrol Track Colour which, after the initial application, I shade with black and darker brown and highlight with white on creases, folds and seams. When the paint has dried go over it with a regular brown drawing ink. This you'll find is sufficiently transparent to let the detail show through and will impart a certain depth to the object which makes it very con-

Attractive display cases can be easily constructed with Perspex and a nice piece of wood. Simple, course sand paper makes a satisfactory 'sand' base and course string, excellent grass.

vincing. For black leather do the same thing except slightly water the final coat of black drawing ink. Try it because I think you'll find it works well. Another technique which has been mentioned from time to time is that of stretching sprue and because most plastic modellers know what it's all about one is given to speaking of it as though it's understood. However, there must be many who are not familiar with this useful technique. If you've not, as yet, stretched sprue I suggest you experiment with it a little and I think you'll find it quite fascinating.

Sprue, as doubtless you know, is the tree upon which the various kit parts are to be found and which is often, unknowingly, discarded. However, to put this material to good use heat the end of it over a candle flame at a distance of about an inch. Shortly it will become floppy and take on a shine. Then it will begin to slightly smoke. At this point grip the end with a pair of tweezers and draw your hands apart with piece of sprue in one and the tweezers gripping the softened end in the other and produce a long, plastic filament as your hands go to the extent of their reach. For thicker, rod-like stretching, draw out the sprue very slowly because it cools quickly. In the event that the sprue flames, discard it and start again. Finally, don't try it with Historex sprue because it won't work. Airfix sprue is very good for the purpose and a relatively cheap kit should keep you well supplied.

For cords and lanyards to be found on many uniforms, rather than use the hard to manipulate kit parts, why not try making them from fine, electrical wire. Take three or four single strands of household electrical wire from the plastic covering, bring them together and place one end in the jaws of your vice. Feed the other end into your pin vice, or for greater speed, into the chuck of a hand drill and simply wind it to the extent of your needs. You can knot it and then splay out the ends for a good tassel. This method is also handy for drumming up some authentic looking rope and you can paint it very easily. Incidentally, if you've not got a vice (bless you) have someone hold one end in a pair of pliers while you wind.

Well, I think we've delayed long enough on passing on that tip for making buttons. Here's what you do. With your Pyrogravure or other suitable heat source, simply bring closely to it the end of a filament of sprue. At a distance of about an eighth of an inch or three sixteenths you'll find that the plastic 'backs off' and starts to form a pin head shape which, right there, is your button. When it's the size you want, take it from the heat and snip it off the length of sprue with a short shaft, say, an eighth of an inch in length. To attach the buttons to the uniform locate their positions and drill in with a fine needle drill to a suitable depth. This done, you just insert the stalk of the button and press it home and secure with a spot of fluid cement. That's all there is to it. Using Slater's plastic rod you can turn up some large 'pin heads' and cut them to form 'T' handle shovels and things or you can produce minute butterfly nuts by filing a notch in the top after you've trimmed two sides.

Finally, let me say that proper mounting is important to the showing off of your figures. I usually make display cases of a wood plinth and perspex box. It's easy to obtain very thin perspex for the job, in keeping with the scale of the figures it encloses. I suggest you make the Perspex case first, four sides and a top, then make the plinth to fit snugly into the open bottom with a suitable lip of wood to prevent it going too far up inside. The accompanying photograph will indicate what I mean. Perspex can be cemented with chloroform or, I.C.I's Perspex cement. If at any time you find yourself in need of a good spray to kill an unpleasantly-shiny figure, try using D.C.M.C. Artist Matte Fixative available from Entwhistle-Thorpe, 35 Maddox Street in London.

Well, I guess you'd say that that ties and bows it for this particular series and in parting may I say that I hope it has served a useful purpose somehow to somebody somewhere. Lots of luck with your modelling.

This picture illustrates the technique of button making. It is quite easily seen how the plastic rolls back from the heat and forms a pin head shape. Tiny cuff buttons can be fabricated with very fine sprue.

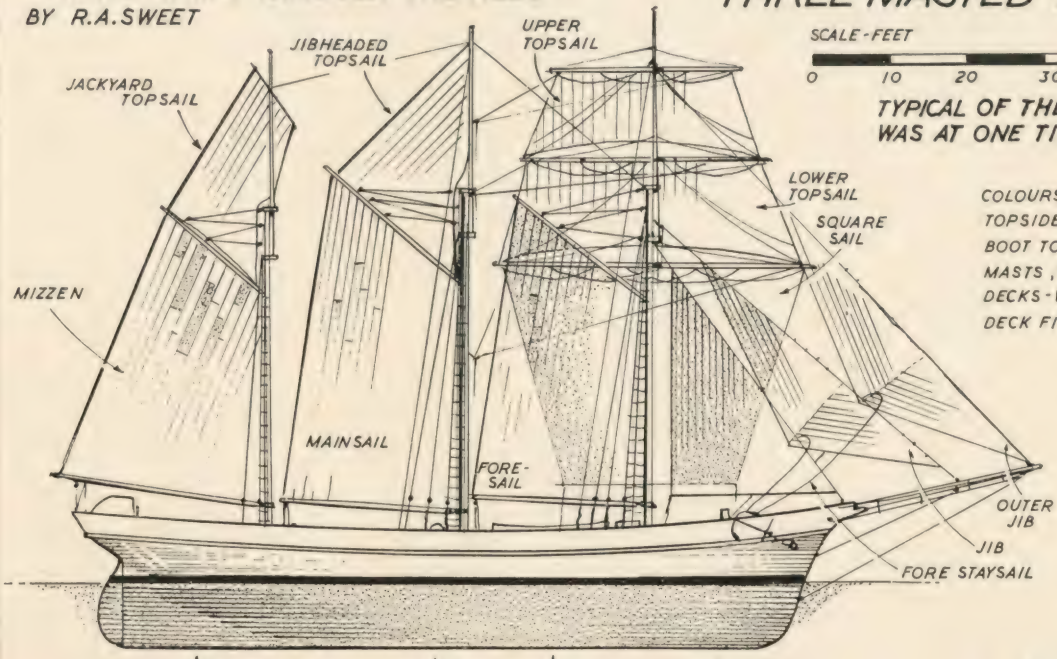
SAILING SHIPS THROUGH THE AGES
BY R.A.SWEET

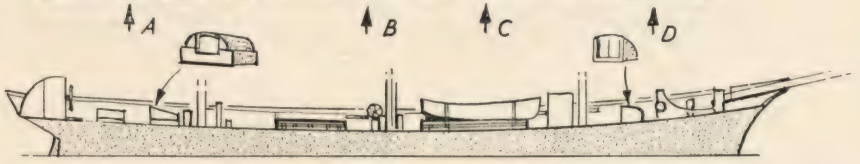
THREE MASTED TOPSAIL SCHOONER
1893

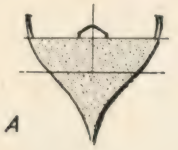
SCALE-FEET
0 10 20 30 40 50

TYPICAL OF THE SMALL SAILING COASTER WHICH WAS AT ONE TIME COMMON AROUND BRITISH COASTS

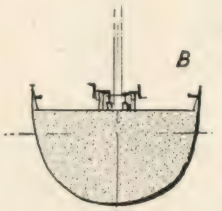
COLOURS -
TOPSIDES - BLUE GREY & WHITE
INNER BULWARKS - WHITE
BOOT TOPPING - GREEN
MASTS, YARDS & SPARS - NATURAL WOOD VARNISHED
DECKS - WOOD CANVAS HATCH COVERS
DECK FITTINGS - GREY
DECK HOUSES ETC - WHITE
SAILS - WHITE

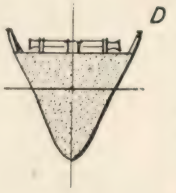


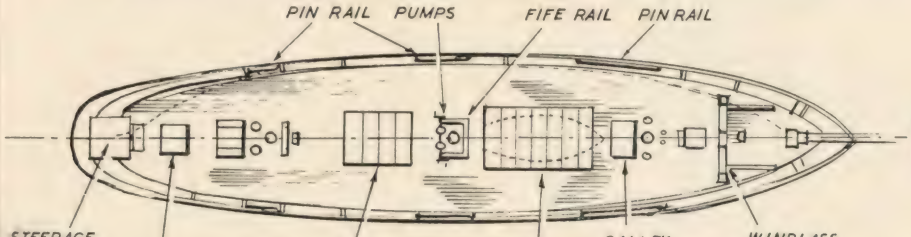


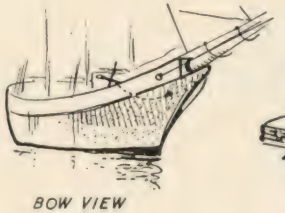


APPROXIMATE HULL SECTIONS

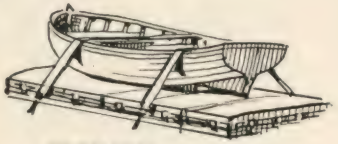








BOW VIEW



WORK BOAT STOWED ON MAIN HATCH

Converting to RADIO CONTROL

DENNIS THUMPSTON introduces the most simple and inexpensive approach to the radio controlled scale model – by conversion of well proven and popular designs for free-flight

Outsize in Conversions! Sid Mariner of the 'Flying Druids' Club – based on Salisbury of course – with his huge Auster A.O.P.9 Modelled after an example based at Middle Wallop, the A.O.P.9 has always been a popular free flight subject and Sid's model has extremely stable characteristics.

AMONG the most challenging and rewarding types of all working scale models is the pure free-flight model of an actual aeroplane; challenging because the flying performance is an unknown quantity until after that first attempt at flight, and yet immensely rewarding by virtue of the sense of achievement and pleasure at seeing your miniature replica in full flight, once the snags have been ironed out and the model is trimmed for stable flight.

However, it must be admitted that the trimming of free-flight scale models is not without hazard and many budding enthusiasts have been deterred by those first flight prangs!

Now, without claiming that radio control is the panacea for all ills, or that it is a substitute for trimming – which it certainly is not – yet it does give a measure of control over those first experimental flights where most of the damage is usually done. This alone is sufficient reason for installing simple, single-channel control, but greater benefits ensue. Firstly, there is the ability to fly in weather conditions other than flat calm without that long downwind trek to recover the model; secondly, you are able to observe the model in the air at comparatively close quarters – the free-flight model is off after that first low level circuit; and thirdly, possibly the most useful advantage to be gained is the ability to land the model *into wind*, thus reducing the landing speed and avoiding those headlong downwind arrivals wherein the undercarriage is wiped off on impact and the fin is removed in the subsequent inevitable somersault!

Suitable Subjects

Given that the installation of radio control is a *good* thing, let us now look for suitable subjects for this purpose, assuming that the modeller is going to adapt an existing free-flight design rather than produce his own plans. Most published free-flight scale designs will already be proven stable fliers, and for single-channel radio control – which usually means rudder only control – this question of stable flight is very desirable. The reason for this is that during flight, the operation of the rudder will not only induce a turn, but also, if the rudder is held on a little too long, a nose down attitude will result. This, in turn, will result in excess speed being built up which will cause the model to climb and possibly stall when straight flight is resumed. So it will be seen that, since we have no elevator control, good longitudinal (fore and aft) stability is desirable, and this is usually to be found in a model with a fairly generous tailplane area, and/or a long moment arm, i.e., the distance between the wing and the tail. Similarly, a certain amount of dihedral is advantageous since models with only small dihedral angles tend to skid on rudder turns, and also it may be difficult to recover by the use of rudder only from a right-hand turn which has built up due to the gyroscopic effect of the motor unless there is adequate dihedral. The high wing or parasol wing model is less critical in the matter of dihedral, since there is a large amount of pendulum stability, but biplanes are a little more critical and should have a minimum of about 2°. Midwing types need about 5° and low wing types are usually best avoided for single channel use unless there is very generous dihedral, or alternatively, the servo can be adapted for aileron control instead of rudder.

However, these considerations should not worry us unduly if care is taken in selecting the prototype from a reliable list of plans, and the M.A.P. range is highly recommended as a happy hunting ground in which will be found a wide range of suitable free-flight subjects which would adapt easily to R/C. These models are easy to build, especially for anyone who has a little aeromodelling experience. Let us look at some of the most suitable types in this range before going into details of modifications and methods of radio installation.

Choice of Model

Taking the high-wing cabin monoplanes first – and these are certainly the easiest to adapt, as well as being most suited to sports flying in the sort of rough field conditions which we usually encounter – we find a

selection of models which range from the simplest through to the fairly complex. An added advantage with the **high-wing types** is the ease of access to the radio gear which is usually easily sited in the roomy cabin area. The following are good examples, some of them illustrated.

FSP/568: *Cessna Bird Dog*. 36 in. span. Good beginner's model which is simple to build, requires no strengthening for R/C use, and is easy to trim and fly.

FSP/832: *Piper Super Cruiser*. 35 in. span. More intricate model to build, but ideal for lightweight R/C.

FSP/424: *Prestwick Pioneer*. 52 in. span. Attractive radial-cowled model which is strong enough to accept radio without modification. Slightly more advanced constructionally.

FSP/503: *Luscombe Sky Pal*. 63 in. span. Another strongly-built model which takes single-channel radio well and would appeal to the modeller who takes pride in turning out a well finished job. Whilst quite suitable for single-channel, would be even better with the addition of elevator and throttle control.

FSP/891: *D.H. Puss Moth*. 52 in. span. A natural for radio conversion for the more advanced builder.

FSP/593: *Max Holste* 152. 50 in. span. An absolutely ideal subject requiring only some strengthening of the undercarriage. Slight complication is the linkage required to operate the twin rudders.

FSP/331: *Chrislea Super Ace*. 54 in. span. Another twin-finned model which is completely successful as a single-channel radio model.

FSP/172: *Cessna* 172. This beautiful 6 ft. span model will fly well on single channel, but is really more suitable for installation of intermediate multi, i.e., rudder, elevator and engine control. The reason for this is that a model of this weight should really be rounded out by the use of elevator on the landing approach and touch down, in order to avoid damage to the undercarriage.

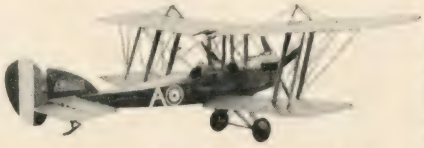
The **parasol wing types** have characteristics and advantages similar to those of the high wing machines, and the following examples, again from the M.A.P. range would prove suitable for radio conversion.

FSP/617: *Focke-Wulf Stosser*. 42 in. span. German pre-war trainer with stringered fuselage and ideal proportions for an R/C model.

FSP/625: *Sopwith Swallow*. 38 in. span. W.W.1 fighter which is extremely stable and *can* be flown with zero dihedral as on the original.

FSP/620: *Dart Pup*. 44½ in. span. This is a slow flier, but perfect for the R/C beginner due to its high degree of stability.

Biplanes make ideal rudder only R/C models if the types are carefully chosen, and the following suggestions from the M.A.P. Plans Handbook are sound subjects.



FSP/721: *B.E.2e*. 40 in. span. Another W.W.1 reconnaissance machine which is a very stable slow flier responding particularly well to rudder control.

FSP/555: *D.H. Tiger Moth*. 44 in. span. More advanced construction, but takes radio well and is a good flier which is not difficult to trim.

FSP/418: *R.E.8*. 43 in. span. Inherently stable W.W.1 artillery–observation machine of fairly simple construction.

FSP/960: *Armstrong Whitworth FK4*. 45½ in. span. Similar characteristics to above.

FSP/937: *Avis*. 30 in. span. Lightplane of the '20s, simple to build and fly, using lightweight equipment.

FSP/899: *Buhl Sports Air Sedan*. 34⅓ in. span. Attractive sesquiplane with lots of character – ideal for very lightweight R/C installation.

The **shoulder** and **midwing types** are more uncommon, but two ideal subjects are:–

FSP/731: *Tipsy Nipper*. 37 in. span. A model with generous dihedral and large tail areas, and ideal for rudder control.

FSP/567: *Blackburn* 1912 *Monoplane*. This is frequently seen flying with lightweight radio, although the slow flight restricts it to calm weather conditions.

Low wing models are not normally very successful as rudder only radio

models – they respond better to aileron control, but with the current availability of motorised single-channel servos, this is a perfectly feasible proposition. FSP/290, the 51½ in. span Chipmunk would fall into this category, but for those who would still like to have a go at a rudder-controlled low wing model, the following are safe subjects.

FSP/554: *Ryan P.T.*20. 45 in. span. American trainer with open cockpits, and easy to trim.

FSP/608: *Heinkel Hansa.* 38 in. span. German floatplane of simple construction, suitable for rudder control due to its low c.g.

FSP/591: *Jodel D.*9 *Bebe.* 38½ in. span. French lightplane with generous tip dihedral.

Dennis Thumpston's conversion of the 33 inch span Mercury 'Tiger Moth' kit at rest (left) and in action (opposite) illustrates how single rudder only control can provide tremendous opportunities for extending the enjoyment of free flight scale modelling.

All the types so far mentioned are available as plans from M.A.P. There are also a few free-flight scale kits on the market and one in particular which is worthy of mention is the Mercury *Tiger Moth.* This 33 in. span biplane is a strongly-built model, once a ply dihedral brace has been inserted in the top wing, and although there are some inaccuracies in outline, a few alterations bring it quite near to true scale appearance and you have a model which is ideal for single-channel radio flying. The writer fitted radio to one several years ago and it is still flying well after some 800 flights (*see photographs*), powered by a Mills 75. This motor is, unfortunately, no longer available, but a D.C. Merlin .75 or M.E. Heron .97 would be quite suitable.

Modifications to Airframes

Now what strengthening need we apply to the free-flight airframe in order to cater for the extra weight of the R/C gear and the extra strains placed on the model in flight? This is a question which troubles many newcomers to R/C, but due to the extreme light weight of most single-channel equipment now on the market, the modifications required are of a very simple nature. Most receivers work off 1.5v pencells or, what is even better, a 3.6v rechargable DEAC battery, and this voltage powers both the receiver and the escapement, so that total all up weight is often not more than 3 oz. This means that any beefing up of the fuselage is usually limited to the area around the DEAC or batteries, and it is invariably sufficient to make the fuselage former immediately ahead of the DEAC of 1/8th ply, and to use 3/16th balsa sheet for the floor of that compartment. However, if the fuselage is of box girder construction, that is, longerons and spacers, then it is advisable to increase the thickness of the longerons slightly and also to fill in the open framework around the radio compartment with 1/8th sheet. The undercarriage will have to take a bigger load, due to the extra weight and also the slightly higher landing speed which the extra weight entails, but it will usually suffice to use a heavier gauge wire – e.g., if a 12 s.w.g. wire is specified, then use 10 s.w.g.

The wings may need to be strengthened if the structure is rather flimsy, and in models up to about 48 in. span, it is sufficient either to increase the width and depth of the main spar by 50 per cent, or to add an extra bottom spar at the 2/3rds chord position. If the leading edge is only of thin stock, then this should be replaced with fairly hard balsa of greater thickness. On larger models, it is a good idea to use spruce instead of balsa spars. If the model has a one-piece wing, then it is imperative that there should be a strong dihedral brace to prevent the wing folding up in mid-air: on smaller models use a 1/8th ply brace to join the mainspar through the centre section, extending this brace along the mainspar in each wing half to the second or third rib position, whilst on larger models, one or two ¼ in. ply braces should be employed. Where the wing is in two detachable panels which are attached by rubber bands passing through tubes in the centre section or cabin, ensure that strong bands are used, tightly stretched, and if wing struts are relied upon to set the dihedral angles, be sure that these are firmly attached at each end.

The fin and tailplane may be a detachable unit, and if so, it is wise to glue a key of 3/32 in. balsa under the tailplane where it fits onto the fuselage to ensure that the tail assembly cannot move in flight and upset the trim. The only other point to watch is that a clear passage is left down the fuselage in order to accommodate the pushrod or torque rod which will operate the rudder, and it may be necessary during the early stages of construction to make suitable openings in the rear fuselage formers.

Types of R/C Equipment

Any small relayless tone receiver used in conjunction with a lightweight rubber-operated escapement such as the Elmic Conquest is probably the most suitable combination, especially for the smaller model, and the writer has flown many scale models using this set up. The Conquest escapement is sequence-operated, one press for left, next press for right and so on, and although it is perhaps a question of personal preference, this is probably more reliable and easier to operate than the selective type of escapement which requires one press for left and two presses for right. However, the latter type does offer the added extra of engine control via a secondary escapement operated by a quick blip, and this is an advantage on larger models. The very large model will benefit from the use of a motorised servo instead of an escapement, in view of the greater power required to operate the larger rudder, a relay receiver usually becoming necessary. However, the slight increase in weight is quite acceptable.

Installation will not create any great problems, the chief concern being to maintain the recommended centre of gravity position, which is usually at about 1/3rd chord. The DEAC or battery is the main source of weight, and if this is sited behind the former which is usually to be found in line with the leading edge of the wing, and preferably fitted in its own little compartment to prevent it moving, no weight problems should arise. The receiver, protected by foam, can be positioned immediately behind the DEAC – behind in order to avoid possible damage from the

DEAC which might be projected forward in a heavy landing or crash – whilst the escapement can be mounted on the fuselage former in line with the trailing edge of the wing. The aerial is best stowed inside along the length of the fuselage where it is out of the way and cannot get caught up with anything – this will not adversely affect the radio reception as many people fear. A miniature plug and socket can be inserted in the aerial near the receiver so that the latter can easily be removed if required. The ON–OFF switch should be in a position where it is easily accessible, but take care that it cannot be accidentally switched off during a hand launch – a slide switch is best fixed horizontally in the side of the fuselage, the OFF position being *back* and not forwards. In order to recharge the DEAC, install a charging socket, so that it is not necessary to disturb the radio installation at each charging session.

Rudder Linkage

The amount of movable rudder area is best arrived at by using the actual scale rudder of the aeroplane. This not only gives a good scale appearance, but it works well, a small movement of a large surface being more efficient than a large movement of a small surface. If a motorised servo is installed, then it is a simple matter to operate the rudder via a balsa pushrod down the inside of the fuselage, terminating in a wire extension protruding through an aperture in the fuselage side near the tail, and connected to a control horn on the rudder. However, if a rubber-powered escapement is used, then, in order to achieve a neat control linkage, one of the two methods illustrated is recommended. Both eliminate unsightly external wire linkages.

Engine Power, Trimming and Flying

The M.A.P. plans mentioned previously all recommend suitable engine sizes; indeed, an upper and lower limit of power is given, and it will be found that if the higher capacity engine is used, then this will be perfectly adequate for single-channel flying. It is always better to tend to overpower rather than underpower – the engine can always be slowed down by the use of a bigger propeller. Trimming procedure is as for free-flight, that is, first adjust tail surfaces for a straight, fairly flat glide, although this should be a little faster than for free-flight as we want to penetrate in windy conditions; then adjust engine downthrust and right-thrust to achieve a gentle climb either in a straight line or in a wide *left* hand circle under power – the latter trim being a safety factor in case of radio failure! Carry out trimming operations with the radio switched on and transmitter at the ready – it should be possible to correct any overtight turn if a fairly large rudder movement is used initially, but be careful not to overcorrect. Once a satisfactory trim has been arrived at, the rudder throw should be reduced so that overcontrol is avoided. Smooth, realistic flight is only achieved by using the minimum amount of buttoning necessary to put the model where you want it – free-flight with occasional radio interference!

Finally, whilst this feature has been written mainly with *conversion* to single channel in mind, the same principles apply to the fitting of intermediate multi- or three-function proportional in the larger models of 48 in. span and upwards.

FIG.1

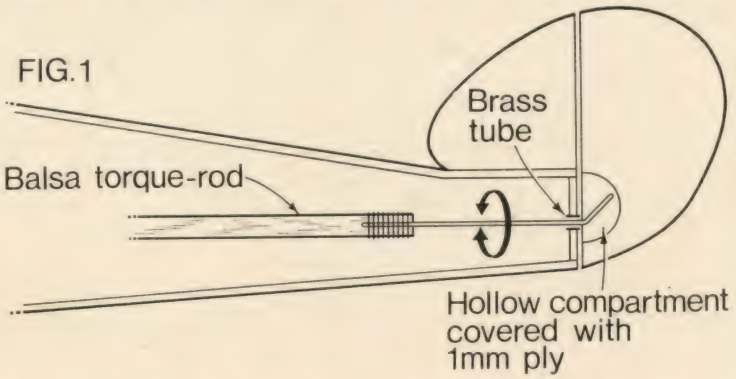
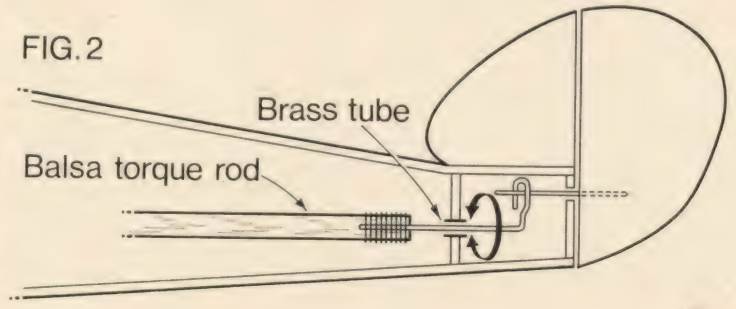


FIG.2



As explained in the text the doors to the storage bins are out of scale and too thick. This view shows this error; they should NOT rest on the trackguard but should be shorter as seen in the second photograph.

modelling the NITTO Sd Kfz 251/1 HANOMAG Half-track from the 1/35th scale kit

A review with extra hints and tips

BY R. C. JONES, I.P.M.S.

FOR THE BENEFIT of any readers who have not seen No. 1, Vol. I of *Scale Models* Magazine we give a brief resume of the review contained in that issue as follows. Moulded in tan coloured plastic, of a colour similar to that applied to these vehicles when seen in North Africa, the component parts are well moulded and of a good fit.

Designed for motorising, the kit includes a Mabuchi A.13 electric motor driven by two UM3 batteries which are stowed under the main floor beneath the fighting compartment, but it is necessary to fit a rather out of scale 'toolbox' into the rear of the vehicle to hide the battery fittings, etc.

The motorisation is carried through the front drive sprocket wheel on the rear half-track and the bogeys, which are free-running, are held in place by pressing these onto steel axles which pass through prepared slots, on the undersides of the chassis floor, from one side of the vehicle to the other. This method of suspension provides a certain amount of individual movement or float to each bogey wheel. Unfortunately, the one-piece rubber track is not of the best quality and it is an extremely taut fit over the bogeys, which tends to choke the movement of the drive wheels. This tautness can be relieved slightly by soaking the rubberised track in hot soapy water and then leaving it stretched over a ruler or similar rigid article. Several soakings may be necessary before the desired result is achieved. Naturally one must be very careful not to overstretch the track, or when fitted to the model it will fly off the bogey/drive wheels.

The front wheels are designed so that they can be turned to obtain a pre-selected radius of movement, the steering arm locking against a serrated bar which also forms part of the front wheel assembly.

Comprehensive Kit

The kit mouldings are neatly done and the fit of the numerous parts is very good. An English language instruction sheet provides a useful step-by-step guide to assembly and also includes suggested colour schemes and finishes. Decals are very comprehensive including markings for the Afrika Korps, SS and other units and the vehicle registration numbers, also provided in decal form; are very useful indeed.

Hanomag troop-carrying vehicles. Note on each side three heavy projector (Schweres Wurfgerat) frames. These frames can be elevated (to a maximum of 42°) but not traversed, so that the weapon is aimed by pointing the vehicle at the target. Six rounds were carried on each vehicle, of which five were usually H.E. and the sixth incendiary. Heavy projectors formed part of the equipment of smoke troops and were also allotted to lorried infantry and armoured engineer coys. The primary role of these weapons was to attack the target area with H.E. and incendiary projectiles; but they could be used to put down a concentration of gas.
(R.A.C. Tank Museum photo)

The kit looks most attractive if made straight from the box, but having obtained **PROFILE ARMOUR PUBLICATION No. 18** *HANOMAG Sd.Kfz 251/1 APC* we decided that the kit could be improved in regard to scale accuracy and general appearance by the addition of one or two scratch built parts and replacing over-scale thickness armour plate with others made from plastic card.

When referring to the Profile Publication centre-spread artwork note that the external stowage of tools etc. differs from that as provided with the kit and also differs from stowage arrangements seen in photographs of the full size vehicles.

Having carefully removed the kit parts from their respective sprue or tree, check the fit of the upper and lower hull as some judicious trimming may be necessary to shorten the length of the locating pins which on our kit prevented the upper bodywork from seating properly.

Once assured that these components fit snugly, one can trim the edges of the mudguards and the various vision slots and hatches; a slight bevel may be shaped into these which will make them stand slightly proud of the surrounding bodywork thus breaking up the otherwise smooth external appearance of the bonnet and cab.

The only real fault appears in the doors over the storage bins. These are moulded in two, one-piece units with the 'doors' simulated by ingrained detailing on the plastic. These are too thick and also too deep for scale accuracy so one can replace these with individual doors made from .015 in. plastic card. These hinge along the *bottom* of the storage bins and

Note whip aerial made from heated stretched sprue; also the additional armour plate fitted forward of the fire extinguisher – this is made from plastic card cut to shape and cemented in place.

Left hand view shows the scratch built machine gun shield and the machine gun taken from the Tamiya kit of the Panther V

open downwards; one could make up a simple piano type hinge for these or simply cement the scratch built doors in the open or closed position. Study the accompanying photographs or those in the Profile Publications to check exact fit and also add the small latches along the upper edge of the door/storage bins.

The next step is to make up the additional pieces of armour plate which fit just above the exhaust tub on the left hand side of the vehicle and in a similar position on the right hand bodywork. Note, however, that the centre-spread drawing in the Profile shows exhaust unit on *both* sides of the vehicle. This is *not* correct as only one was fitted which ejects across the front of the left hand track guards. These armour plates should also be made from .015 in. thick plastic card and then cemented in place.

The only other extra or modified detailing on the external fittings is to the headlamps. On some Hanomags these were often removed; but if you should wish to fit them, note that the lenses were covered by blackout hoods or similar covers in which just a small slot was left. This can be represented by a thin strip of scrap plastic cemented horizontally across the front of the lamps.

The various tools and the tool box (which fits above the right hand rear track guard) should now be trimmed ready for fitting as should the fire extinguisher carried just forward of the starboard side storage bins.

Having now ensured that all the pieces of the bodywork fit to your satisfaction one can commence rebuilding the shield on the forward mounted machine gun as that in the kit is far too thick and wrongly angled and shaped . . . again see the Profile Publication. The m/g mount as provided with the kit is satisfactory but the gun is best rejected as it is out of scale and far too 'heavy' . . . on our model we used the machine gun left over from our 1/35 scale **Tamiya Panther** kit, but one could scratch build a new gun or modify one of those as provided with the **Tamiya** set of **German Infantry Figures.**

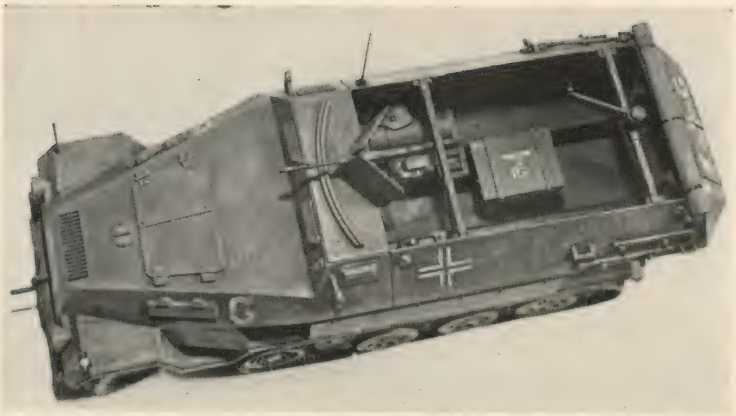
The mount for the machine gun at the rear of the vehicle also requires some attention and this is best made from scrap sprue or plastic rod using the centre spigot cut from the mount supplied with the kit.

The internal detailing on our model consists of the two crew seats with driver's controls as provided with the kit; but the 'stores' and other fittings were scratch built or from our bits box. The water barrel was a common feature to the Hanomag and this is mounted on four angled legs with the tap made from thin sprue bent to shape – projects to the rear of this water container. The two larger boxes were from a **Merit Trackside Accessory** packet, from any model railway shop while the Jerrycan was scratch built. This is fairly simple as the detailing as seen on the sides of these is hidden by other 'internal' stores and thus one only need shape the parts visible from above, which means an angled front top corner with a circular lid or stopper cemented in place and the three handles were made from bent plastic rod which had been thinned down to scale thickness. The two smaller cans behind the Jerrycan were made from the smallest of the boxes included in the **Merit** packet of boxes and the handles across the top of these again made from bent plastic.

A generator on the left hand (inside) bodywork is from an old **Revell Truck** kit as the Germans found these superior to those of their own design and large quantities of these were captured and put into use after the Battle of the Bulge in the Ardennes. Forward of this and on the driver's left is a flat container which carried maps and personal gear and the internal fire extinguisher is mounted on the instrument panel forward of this. The two bench-type seats alongside each side of the main crew compartment are as supplied with the kit but we covered ours with **Fablon Simulated Leather,** which, being fairly heavily grained, looks most realistic after a coat of brown paint.

A final touch on our model was to add the driver's width indicators carried on each front wing of the vehicle. These are made by sliding a thin piece of wire through a No. 24 hyperdermic needle, this is then heated slightly at the bottom end

The internal 'load' is made up of boxes available in the Trackside Accessories as made by Merit. The rolled tarpaulins are from Kleenex tissue, tied with twine and painted field grey. The Jerrycan and water containers are scratch built from plastic card and bent sprue for handles. Decals for Regimental Officer's luggage is from Almarks range of 1/76 scale Armour Decals. Water Barrel also from Merit model railway accessories pack.



Plan view showing further interior fittings, the steel helmet came from one of the Airfix 1/32 scale Infantry Set figures as did the briefcase and water bottle (just visible to left of the helmet). Other detail in the driver's compartment includes extra pack and driver's controls made from sprue and spares from one's bits box. Note traffic indicator detail and the stowage of tools. Panzer grey finish with dry-brushed dusty finish.

and pushed into the edge of the 'wing' of the model. Small white blobs, or sighting guides, are made by using thick **Humbrol** matt white paint which is applied in a near dry state, building them up into shape . . . and the rear view mirror was made from scrap plastic cut and trimmed to circular shape with a piece of self-adhesive foil stuck on to the back.

Finishing and painting of the model is a matter of personal choice. We elected to do ours as a Command support vehicle of the Regimental Officer of the 9th Panzer Division but naturally one could use any of the decals as provided with the kit and refer to the kit instructions for details of the relevant finish.

Our model was painted overall **Humbrol** Panzer grey and then dry brushed with dark earth and tan colour to get the dusty effect, all decals being applied prior to the final stages of dusting . . . at this stage we also added the two traffic direction indicators; these are neatly moulded as supplied with the kit; but we cut a sliver of plastic card to represent the indicator protruding from the side of the unit.

Many Hanomags carried coils of barbed wire, this being pushed down between the front bumper and the radiator armour plate, the starting handle and rope being used to hold this in place; similarly a rope was often wound around the front fender – as seen on our model – and this is made from thin twine.

The external stowage included tools such as shovels, picks, etc. and those provided with the kit are satisfactory for this; some vehicles carried Jerrycans slung from the tool attachment pins and others had extra track clipped across the front of the bonnet or alongside the top outside face of the crew compartment.

Internal stores and equipment varied according to the role or purpose of the vehicle; we limited ours to boxes and crates and water cans, etc., with a folded tarpaulin made from rolled Kleenex tissue painted in field grey and then tied with thin twine. The rear doors are operable and it is necessary to ensure that they hang free when 'open' but are a snug fit when closed . . . thin strips of plastic are cemented down the inside of the doors to represent locking bars.

The SdKfz Hanomag was a very versatile vehicle and appeared in at least twenty-two official variants. Others were modified 'in the field' by units for special duties. Among these, perhaps the best-known were those fitted with 28 cm. Rocket Launchers, but others included the 251/2 Mortar Carrier, the 251/3 Radio Car (with the large aerial cage so common to German AFV's), a 251/4 ammunition carrier, the 251/8 armoured ambulance and 251/15 Flamethrower. Versions used by Platoon Commanders or Panzergrenadier Battalions included the Sd Kfz 251/10 which mounted a 3.7 cm. anti-tank gun in place of the forward machine gun. This initially had a large shield fitted but this was often removed in service.

All the variants mentioned were built around the 251/1 chassis/bodywork as provided with this kit, however, some of the Rocket Launchin types had the crew compartment lengthened and slightly squared off.

A more ambitious conversion would be to the later SdKfz 251/1 Ausfuehrung (Type) D with an altered arrangement of armour plate on the front and rear of the bodywork and other subtle changes in outline shape.

For anyone seeking further information or references for these vehicles we recommend the book *HALBKETTENFAHRZEUGE (GERMAN HALF TRACKED VEHICLES)* by Walter J. Spielberger and Uwe Fiest, published by Aero Publishers Inc. Armour Series No. 7, 3 dollars (US) or 23/6d. in UK from W. E. Hersant Ltd. This covers in considerable detail by photographs and drawings with accompanying text, all German Half-Tracked vehicles and is an excellent guide for those seeking super detail or ideas for further conversions.

Example of the Hanomag in the Royal Armoured Corps Museum at Bovington, Dorset.

Collectors of military figures appear to favour either plastic or metal, and usually they do not mix the two. A collector of metal figures will extol the virtues of metal while the collector of plastic figures will be just as voluble about plastic. Both types have their advantages. Plastic figures are certainly cheaper and possibly easier to convert, needing less tools. Many collectors start with plastic, gain experience of the hobby and then transfer their attention to metal. A preference for metal is due partly to the feel and extra weight which seems to give an added element of stability and realism, and partly because fine detail is somehow crisper. To the beginner the thought of working in metal might seem frightening, but with a little practice a model can be created which will be unique and the envy of fellow collectors. We are engaged in a very demanding hobby, but perfecting our skills is surely a very satisfactory way of spending one's leisure time.

Make a dashing Cavalier

Maurine Sandoe, M.A. and Pat Campeau, N.D.D.

tell how to create an original figure

. . . . of about 1640 from a Rose 1st World War French Officer in 1914 uniform. The Cavalier is wearing a luxuriously feathered hat, a buff coat, false sleeves, stockings and a leather baldrick supporting a rapier. The Frenchman is wearing a tunic, breeches, gaiters and a kepi.

HOW TO CONVERT YOUR MODEL

Body

With a file (I used an 8 in. x $\frac{1}{4}$ in. square medium cut) clean off revolver, strapping, buttons, belt, and completely smooth top half of the body by rubbing with steel wool. File the front of the collar to look like a neck. To give a slim figure, file in the shoulders a fraction. From the waist downwards file in deep enough to take the thickness of the thin sheet lead that we are using to make the buff coat. So that the finished figure will not be too full, file back and hips slimmer and flatter. Carve two deep grooves about $\frac{1}{8}$ in. wide, tapering to the waist to form the basis of two folds in the lower front of the coat.

Legs

Carve two similar grooves, tapering at both ends, on the outside thigh of both legs to form the slash in his breeches (**Fig. 1**). Grooves are generally made with a graver, but a penknife can be used. Mix a small portion of Isopon and put some in each groove. When set, carve with a penknife an impression of crumpled material coming through his breeches. Heat accelerates the setting time of Isopon, so place the figure in a fairly warm place. As the Cavalier's legs are clad only in stockings, the French Officer's gaiters must be slimmed considerably. Make a slim ankle and file in round the knee to lower and accentuate the calves.

Buff Coat

To make the lower part of the buff coat, cut with scissors a piece of thin sheet lead approximately $\frac{1}{2}$ in. deep by 1 in. wide and slightly curved. Make two cuts (**Fig. 2**) for the front slits

Fig. 1
Detail of slash in breeches.

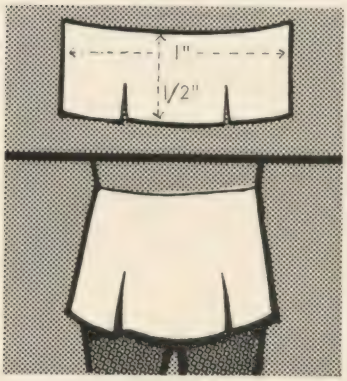


Fig. 2
Details of front of buff coat.

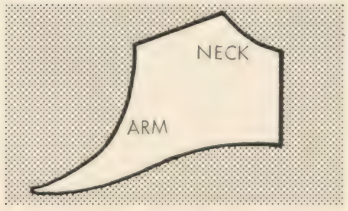


Fig. 3
Detail of shoulder piece.

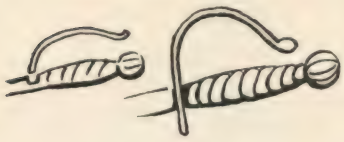


Fig. 4
Detail of rapier hilt.

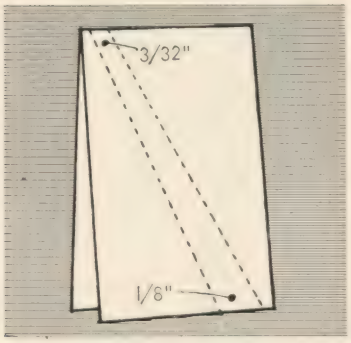


Fig. 5
Detail for cutting baldrick.

of the coat. Using Araldite, stick the strip around the front of the figure pressing the lead under the waist recess and into the fold grooves. While the Araldite sets, secure at the waist with a length of button thread. When set remove thread and file the side edges of the coat at the back, so that when the back strip is in position it will make a smooth overlap. Cut a similar shaped piece of lead for the back of the coat this time making one large central slit. Attach this to the back of the figure with Araldite, pushing the lead close into the waist recess. Cut the metal exactly to size, i.e. ending at each side of the figure, making a neat overlap. Leave this piece swinging partially open at each side of the figure to form the side slits of the coat (**Fig. 1**). When the Araldite has set (as with Isopon heat will hasten the process), fill the gap between the bottom of the coat and the legs with Isopon. when set, remove retaining thread and file and smooth with steel wool at the waist, making a clean join. For the shoulder pieces cut two shapes of lead (**Fig. 3**). Mould each piece closely around the front of the shoulders and trim to make an exact fit with straight edges. Araldite to the figure and the figure to its base.

Rapier

Cut a $1\frac{1}{4}$ in. piece of brass wire about 1/16 in. thick, and securing one end in a pin vice, file a taper with a flat Swiss file, making a small button at the end. When filing wire rest it on a wooden block with a groove in it. Turn wire around, shape the pommel and grip. Remove from the vice. Cut another piece of wire and, placing it in the pin vice, turn it with a pair of pliers into the shape of the knuckle-bow. Finish with a file. Cut the knuckle-bow to size and solder to the rapier just below the grip (**Fig. 4**). If there is no soldering iron available, the knuckle-bow could be secured with Araldite.

Baldrick

The baldrick is a leather belt embroidered with gold or silver, worn over the right shoulder as a sword belt. Double a piece of lead to make a size $\frac{1}{2}$ in. x $1\frac{1}{4}$ in. and, starting from the fold, cut diagonally across a small strip about 3/32 in. at fold to $\frac{1}{8}$ in. at open end (**Fig. 5**). This, when opened out, will give the correct angle for crossing the body and laying flat on the shoulder. Place the baldrick over the Cavalier's right shoulder, across the body to the left hip, press into the body contours and Araldite. Secure rapier in a natural position touching the hip and the front end of the baldrick and adhere the back strap of the baldrick across the back of the figure and over the rapier to meet the front strap. The hilt of the rapier should be visible from the front of the Cavalier.

Arms

File the existing cuff from both arms and, keeping the shape of the arm correct, deepen existing folds adding a few extra if desired. Make the cuffs with two curved strips of sheet lead and Araldite to the wrist so that the upper edge of the cuff stands out from the rest of the sleeve, Make the side join of the cuff on the outside edge of the arm and leave the cuff open. Araldite both arms to the body.

False Sleeves

Cut two pieces of sheet lead and bend them to give natural looking folds along their length, taper to a point at one end (**Fig. 6**). Place the tapered end of one piece on the left shoulder of the Cavalier to look as if the false sleeve is coming from under the shoulder piece and hanging freely down his back. Being careful not to obscure the hilt of the rapier, Araldite the sleeve to the shoulder and to where it touches the rapier in the baldrick. Araldite the second sleeve to the right shoulder and to where it touches the buff coat.

When the Araldite has set carefully file at the shoulders to give a good finish.

Collar

Cut the collar shape from sheet lead (**Fig. 7**). Press it around the shoulders and neck to give a good fit and lift the front edges slightly to give natural folds.

Hat

File off the peak of the existing cap down to the forehead. Taper the sides and file the top at an angle. Cut a circular piece of lead and Araldite to the top of the hat to raise the height (**Fig. 9**). Smooth with a file and steel wool. For the brim cut an oval piece of sheet lead and cut a hole in the middle to allow it to fit tightly over the head at an angle echoing that of the crown

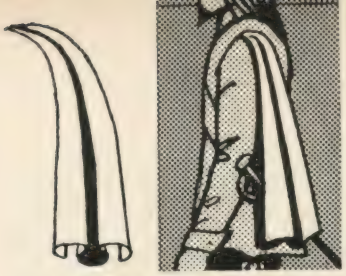


Fig. 6 Detail of false sleeves.

Fig. 7 Detail of collar

Fig. 8 Enlarged drawing of method of making bows.

Fig. 9
Detail of built up crown and brim of hat.

Fig. 10. A series of 11 colours is supplied by Rose Miniatures.

of the hat. Warm the figure to make the Araldite flow and run a thread of Araldite round the join between the brim and the crown. When the Araldite has set, curve the brim upwards at each side. Mix some Isopon and make the basic shape of a large luxurious feather on the brim. When set, detail with a graver or knife.

Hair

Using Isopon lengthen the Cavalier's hair to his shoulders, and make small pointed beard on his chin. Detail when set with knife or graver.

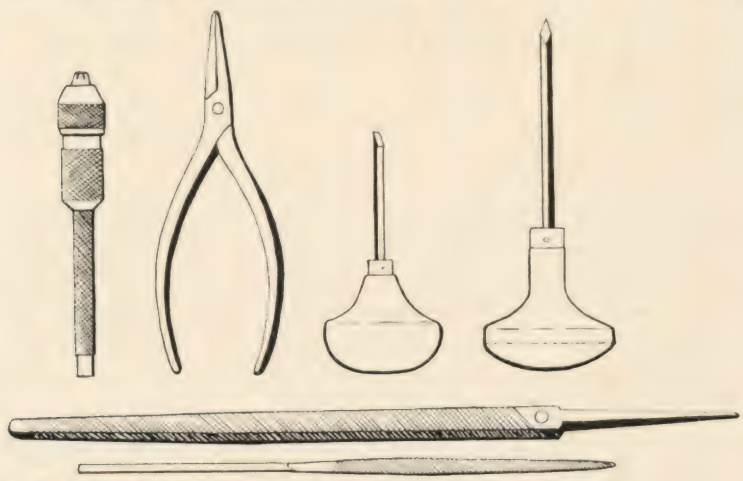
Bows

Cut a short length of 5 amp fuse wire. Knock two pins into a piece of wood as close to each other as possible. Make bows by winding the wire tightly round them (**Fig. 8**). Make five bows like this. Cut two longer pieces of wire and do the winding process twice on each bow to make two slightly larger ones. Remove these from the pins and flatten gently with a hammer. Crimp the loops of all bows, stick the two larger ones on the outside leg at the lower edge of the breeches, three smaller ones just above the waist on the front of the buff coat and one on the front of each of the shoes. The Cavalier is now ready for painting.

Painting

Undercoat model with a thin coat of white being careful not to obscure the fine detail.
Hat: Grey felt with dark blue headband and scarlet feather.
Hair and moustache: Medium brown.
Flesh: Mixed from white, yellow ochre, vermilion and a spot of green.
Sleeves and false sleeves: Plum coloured with gold lines running from wrist to shoulder on both arms. Cuffs in medium green. Collar, white.
Buff coat: Buff with grey buttons along front edge of shoulder pieces.
Bows: Vermilion.
Baldrick: Vermilion, edged and patterned in gold.
Rapier: Black leather scabbard, the hilt and tip in silver.
Breeches: Dark blue, gold outlines around slash and grey crumpled material coming through it.
Stockings: Medium green.
Shoes: The shape of the shoe is painted on using medium brown.
Base: Mix sand with green paint and lay thickly on the base to give the impression of grass and paint earth brown around it. Paint the edge with gloss black.

Matt waterproof water paints and the gold paint may be obtained from **Rose.**
Gloss black and silver paint from **Humbrol** agents.



Materials and tools needed

Isopon (used for mending car body work and obtainable from motorist's shops). **Araldite** (an epoxy resin adhesive) obtainable from hardware shops or Rose. Small pieces of sheet lead, beg from a plumber, or buy from Rose. 5 amp fuse wire. Thick brass wire. Plaster of Paris. Button thread. Files. Small pin vice. Fine pliers. Gravers, or a penknife. Steel wool. Model—FW 3 with right arm akimbo, from **Rose Miniatures.** Matt waterproof water paints 11 colours from **Rose Miniatures.**

Recommended Reading

A FURTHER SELECTION OF VALUABLE REFERENCES FOR MODELLERS

REVIEWED BY BOB JONES

Latest additions to the excellent **MEN AND MACHINES** series of books is **'VOLUME ONE: BRITISH FIGHTERS OF WORLD WAR TWO'**, *by Francis K. Mason, illustrated by James Goulding.* Price 30/–. (Our review copy by courtesy of Modeltoys, 146 Kingston Road, Portsmouth, Hants).

Following the now familiar format, the author writes in a most entertaining style the story of the development and operaional histories of the *Bell P-400 Airacobra, Gloster Gladiator, Gloster Meteor Mks. I to III, North American P-51 Mks. I, III and IV, Supermarine Spitfire Mks. I to P.R.XIX* and the *Westland Whirlwind*.

The photographs have, obviously, been carefully selected from both official and private sources to present as near as is possible a complete coverage of each type by mark or variant and these are ably supported by some very fine artwork by James Goulding. The colour pages each include a five-view general arrangement drawing of the relevant types in representative operational markings and insignia: Single page drawings show P-400 of 601 Squadron (Mr. Goulding will, undoubtedly, add further controversy in regards to the camouflage colours used on these machines of 601, the drawing represent the aircraft in the Green/Grey upper surfaces scheme and undersides in light grey. (Not the Sky Type 'S' as so many sources claimed the undersides colour to be.) This reviewer has the Air Ministry drawing issued to Bell for the camouflage and markings of these machines and it is clearly stated thereon that the Undersides shall be Sky-Type S-Grey: Dupont Code 71-021, the Dupont code is the American Specification for matching service colours at that time and 71-021 shade card is definitely Light Grey so that when first delivered these machines wore Dark Green/Dark Earth Upper Surfaces with Sky-Type S-Grey undersides. When received by 601 Squadron they were repainted in the then recently introduced scheme of Dark Green and Grey upper surfaces, this being done by overpainting the original areas of Dark Earth with a mixed concoction of Night (Black) and Sea Grey Medium, which gave a slightly darker tone of grey than the Ocean Grey colour which was shortly to be issued to squadrons. The mixture was a temporary measure until stocks of the Ocean Grey became generally available . . . hence the many claimants who insist that the Airacobra's of 601 were in 'non-standard' shades of Grey are, up to a point, correct. However, the spinner and fuselage bands were M.A.P. colour Sky Type 'S' and the very excellent side view photograph of AH576 on page 6 of this book certainly shows the contrast between the colours of the fuselage bands and spinner to the underside shades, as does that on page 7 – where it also is clearly shown that the rear 18 in. wide fuselage bands do not continue under the fuselage but end hard against the upper/lower camouflage demarcation line. We apologise for taking this extra space for personal comment, but so much controversy has sprung up recently in regard to the finish on these machines that we thought that readers may care for us to elaborate on the subject in order to add our agreement with the colours and details as shown by Mr. Goulding. The Gloster Gladiator and Gloster Meteors come next, the Meteor being a two-page spread of a Mk. 1 machine, and these are followed by single page five views of the Mustang Mk. 1 and Mustang Mk. III, and Mustang IV, 3 Sqdn RAAF. 239 Wing, Desert Air Force – Mr. Goulding shows the RUDDER of this machine, coded CV-P, as *RED*, but we have seen in the Australian Newsletter of the I.P.M.S. that the rudder was painted *BLUE*. Perhaps Mr. Goulding or I.P.M.S. Australia members would like to comment on this?

Sixty years span the range of 'Janes' aircraft reference books now available thanks to Messrs. David and Charles (Newton Abbot) reprints of the early volumes as at left. The weighty volume at right, covering over 1,000 pages is perhaps the biggest, heaviest and boldest aviation publication of all time.

The next section of colour drawings cover the Spitfire Mks. 1, a Vb Trop., an HF VI and a Mk. VIII of the RAAF and a PR.IX, followed by a Mk. F.XIV, and finally a two-page spread of a Westland Whirlwind of 263 (F) Squadron.

Mr. Goulding's artwork is among some of the finest that we have seen in this series and the colour reproduction is of a comparable quality.

The photographs throughout are sharp and clear, with a fair number of 'new' and some rare ones. An excellent companion to earlier volumes and we eagerly look forward to Volume Two of R.A.F. Fighters.

Almost immediately following the R.A.F. Fighters Volume One we received **'GERMAN FIGHTERS OF WORLD WAR II: VOLUME TWO'**, *written by Martin C. Windrow and illustrated by Terence Hadler and Thomas Brittain.* Priced, as all the Men and Machines series, at 30/- (UK).

A very similar format to that for the R.A.F. FIGHTERS book is used, and Mr. Windrow is to be complimented upon his presentation of the histories of the *Focke Wulf 190* series, the *Dornier* Night Fighers, *Heinkel He.100* and *Heinkel He.219's*, plus the *Junkers Ju.88* Fighters, finishing with a chapter giving a very brief resume of Luftwaffe camouflage and markings as applied to these machines 1939-1945. The author points out in regard to this chapter that the subject is so complex that his notes are intended only as an introduction to the subject, but we would suggest that anyone who is just starting to take an interest in Luftwaffe paint schemes and insignia will find this an invaluable starting point.

The photographs are very good indeed, with some very rare and unusual shots included among them, and Mr. Windrow must also be congratulated on his 'scoop' in obtaining from Colonel Hajo Hermann the colouring and markings which are included in the five view drawings of the FW-190A-5 that this pilot flew when Commanding 30 Jagdivision of the *'WILD BOAR'* (Wilde

Sau) night fighter unit, a very unusual and striking scheme this. Other coloured five views are provided for: *FW-190A-3, FW-190A-8, FW-190D-9* and a *Ta. 152H-0*. These are followed by further colour general arrangement drawings for the *Heinkel He.100* (as used in local defence of the Heinkel factory) and *Dornier Do.217J-2* (captioned on the artwork as Do.17J-2, obviously a printer's or proof reading error). This is followed by drawings for the *Heinkel He.219A-0* and *Junkers Ju.88C-6A* and C-6C's, in turn followed by *Heinkel He.162A-2*. The artwork section is completed with a single page colour presentation of representative unit markings and kill symbols, together with representative schemes for various 109's and 190's.

A fine companion to Volume One of German Fighters in the same series, but the artwork is not quite in the same class as that of the British Fighters book . . . however, at 30s., a very fine source of reference indeed.

A more general presentation concerning the German Air Forces is the new **'DIE DEUTSCHE LUFTWAFFE 1939-1945'**, *by A. Galland, K. Reis and R. Ahnert*. Published in Germany by Podzun Dorheim, it is now available through their Sole Distributors (outside the American continent), Messrs. W. E. Hersant Ltd., 228 Archway Road, Highgate, London N.6. Price 94s. 6d. plus P. & P.

The name of Karl Reis is, of course, familiar for his excellent *Dora Korfurst und Rote 13* and *Camouflage and Markings Systems of the Luftwaffe* books, while that of Adolf Galland is, of course, equally well known both as an author with his 'The First and the Last' and his association with the film 'Battle of Britain', etc. It is therefore somewhat surprising that we found this book rather disappointing.

The two hundred and sixty plus pages are made up in a combination of photographs with accompanying captions throughout, in which one also is given a diary-like record of day to day or weekly 'events', including, for example, details of particular actions with loss rates and similar information supported by tables of aircraft States as at the beginning of various operations such as the Battle of Britain, Operation Barbarossa, etc. The German text is supported by somewhat short sometimes literal translations into the English language, and the reader will, we think, be rather exasperated by the somewhat curt English and the misleading nature of some of the captions.

The book commences with brief history of the latter days of the Imperial Air Service of W.W.1 and then takes us through the inter-war years when the clandestine Luftwaffe was originated up through the period of the Spanish Civil War, after which the book develops rapidly into a far more comprehensive coverage of World War Two, war in the air. The photographs are of a very mixed nature, showing personalities, equipment and aircraft, although in the case of the latter there are rather too many which show just a nose or tail of a machine and the camouflage and markings enthusiasts will be somewhat disappointed with the selection offered. Similarly, we were very surprised indeed on page 74 to see two prints captioned 'In a scramble, Spitfires try to intercept bombers during their return flight' and 'During a raid a Spitfire is destroyed while taking off', as these are nothing less than stills from the recent film *'Battle of Britain'*, while on the preceding page is another shot captioned ' . . . however, he is repelled immediately by German support fighter, Me. 109', this showing a rather well-known photograph of dubious authenticity of a Spitfire in Munich period fuselage roundels being 'pursued' by a 109E. Elsewhere in the book will be found other photographs which are perhaps a little fanciful in their captioning or taken from well known 'official' photographs. However, there are many photographs which are completely new, and the chapters covering the activities of the Flak Regiments and Paratroops – both of whom came under the jurisdiction of the Luftwaffe – contain some superb and obviously genuine photographs taken during the Battle of Crete and the Battle of Germany. Similarly, the coverage of the Russian campaigns and those of the equivalent of Coastal Command are also most interesting. The book ends with tables of comparative performance figures for allied and German aircraft, together with lists of Luftwaffe senior staffs and tables of equipment held by the *Flakartillerie der Luftwaffe*, etc.

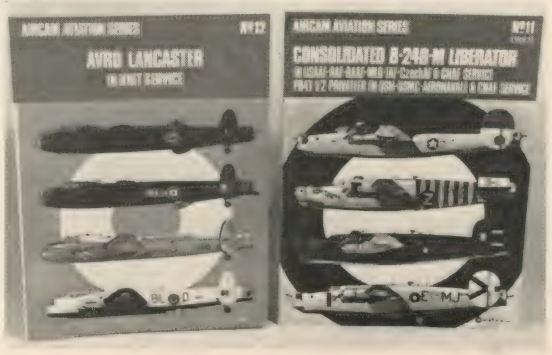
The price of the book is somewhat expensive when compared to, say, Dora Korfurst and similar specialist publications and as a German presentation of a photographic history of the Luftwaffe it falls somewhat short of what one would perhaps have expected.

AIRCAM publications are still gaining in popularity and **No. 11 'CONSOLIDATED LIBERATOR B-24D-M in USAAF. RAF. RAAF. MLD. IAF. CZECH AF & CNAF SERVICE** combined with **PRIVATEER PB4Y1/2 in USN. USMC. AERONAVALE AND CNAF SERVICE'** is one of the best that we have seen to date, written by *Ernest R. McDowell*, the brief historical and operational history is both compact and enlightening, while the photographs must rate as some of the finest that we have seen in this series. The artwork consists of eight pages or coloured side views, a further three pages of black and white plan views showing various styles of markings and insignia, together with camouflage patterns, relevant to the aircraft illustrated in the colour page side view drawings.

The Liberator was somewhat overshadowed by the more glamorously sounding Flying Fortress during W.W.II and although never as popular with their crews as the Fort's, many still remember the 'Lib' with affection, and she certainly soldiered on for many years in post war service, serving many masters in many roles, ranging from Weather Survey operations to V.I.P. transport and freight duties.

The authors have done well to find so many fresh photographs of the Liberator and excellent shots abound covering all the variants between the early 'D' and 'M's' . . . the PRIVATEER is another little publicised machine, and photographs of these are a rare sight. The authors have found several new ones and Richard Ward provides a separate colour page insert illustrating two PB4Y-1's and two PB4Y-2's. At 21s., this is an essential reference to anyone interested in bomber operations in World War Two.

When talking of bomber operations, inevitably, the name Lancaster springs to the fore, and **AIRCAM No. 12 AVRO LANCASTER IN UNIT SERVICE** *by Mike Garbett and Brian Goulding*, must rate as the finest yet published in this series. The two authors are well known for their reticence to write of or illustrate anything about which the slightest doubts exist, and as a result this book on the immortal Lanc is a goldmine of information on the type. The text gives the story of the development of this famous bomber in a well written and informative manner, including details of post war operations and usage by Foreign Air Forces, together with brief technical details, which, incidentally, are worth studying as the dimensions and performance and other figures quoted differ from those published elsewhere and should be regarded as *the* standard for Lancaster technicalities. Artwork by Mike Roffe complements the overall quality of this publication and obviously a lot of study has gone into the preparation of these drawings, as close examination will show that they are NOT all the same basic g.a. but each drawing is truly representative of the mark or sub variant it depicts. Seven pages of coloured side views are supported by one page of detailed and superbly drawn nose art, and individual aircraft markings and these are complimented by a further three pages of plan views showing camouflage and markings pat-



terns and colour schemes . . . Incidentally, the *'Mid Green'* colour shown on the legend is that used in the Roundels of the machines of the Egyptian Air Force. We mention this as on our review copy the pattern representing this colour is not too well defined. The photographs are undoubtedly unique, as most of them were obtained from ex-Lancaster air and ground crews, and although one or two may appear to be rather hazy or of poor definition, the reason for including these is very apparent, as, for example, the print showing ME315 2K-L of 1653 CU, this machine retains the codes of her original unit, 1668 CU, Cottesmore, and one can clearly see where a 'new' rear fuselage has been mated on to the original airframe, the story attached to this being given in the accompanying captions – in fact, the captioning throughout is excellent – another little-recorded Lancaster marking is shown in the print of a Special Duty Flight machine, where the camera aircraft has the crudely (*very!*) painted white tail stripes. In many instances, the photographs show close ups of personal and squadron insignia, both official and unofficial, and the modeller will find many new and interesting schemes and combinations of markings, etc., of the Lancaster series, ranging from the standard machines of Bomber Command, through the many variants and 'specials' to Coastal Command and training aircraft, plus, of course, those of foreign air forces.

The authors and artist are to be congratulated on their tenacity in insisting on the use of so much rare and at times unusual material, all of which mounts up to what must surely be the best of any similar publication to date and well priced at 21s.

The latest **PROFILE PUBLICATIONS** (Modeltoys, 246 Kingston Road, Portsmouth, Hants., 5s. plus p. & p.) are Number 209 and 210. The former is by M. J. F. Bowyer and is for the *MOSQUITO Mk. IV*, while the latter covers the *MITSUBISHI G4M* series *'BETTY' JAPANESE BOMBER* and *OHKA* Bomb, also priced at 5s.

That on the Mosquito IV is somewhat disappointing as this particular variant has been so well covered in the book 'Mosquito' (by M. J. Bowyer and Martin C. Sharp: Faber 84s.), and very little that is new is apparent in this particular Profile. Artwork by Thomas Brittain consists of a centre spread with a five view coloured drawing of DK331 of 109 Squadron RAF, together with a further four side views of other representative Mk. IV's. Unfortunately, the reproduction is not all that it could be and the colours bear little resemblance to those used on the original machines. For the sake of continuity this particular volume is welcome, but we would hope that subsequent series of variants will come late rto provide a more interesting and little less known selection of photographs and colour detail. As a complete contrast, Number 210, covering the *'Betty'* series of Japanese bombers together with the Ohka Bomb, written by Rene J. Francillon Ph.D., mawes fascinating reading, the text being ably supported by man new and previously unpublished photographs of these machines. The centre spread colour artwork by Messrs. Brittain and Hadler is for a Navy Type 1 Attack Bomber Model 24J (G4M2e) of the 721st Kokutai, Tomitaka, March 1943. The five views of the Betty, together with the Ohka bomb – including two showing it mounted in the bomb-bay of the parent aircraft – are very good indeed and an ideal guide for the modeller.

The latter section of the book gives a comparative table of performances between allied Bombers which were in a similar category to the Betty and also provides listings of units and the bases from which they operated 1941-1945. A fascinating account of the technical and operational career of the type is rounded off by a very useful breakdown listing all Betty variants together with relevant information explaining the differences between the numerous types and sub-types developed from the original design.

The name of Peter M. Bowers is well known, as is that of Paul R. Matt, for many books on American aviation, and these two author/researchers have combined their talents to produce the first of a new series of **'AIRCRAFT PHOTO ALBUM(S)'** Vol. 1 (W. E. Hersant Ltd., 228 Archway Road, Highgate, London N.6, price 31s. post free). This is a large, soft covered publication which is made up of fifty six pages, each containing excellent photographs of American aircraft, ranging from the Breguet biplanes of W.W.I. up to the P-80 Shooting Stars and T-33 jet trainers.

The selection of the photographs is somewhat puzzling, as some, such as those of the famous NC (Nancy) Flying Boats as used by the U.S. Navy are excellent, but then one comes across a page of rather mediocre shots of captured enemy aircraft in spurious markings, most of which are so well known as to be inexcusably repetitive. Although some particular prints may not have been seen before, the aircraft are all well known in very similar fiinishes from photographs that have appeared in many other publications.

'Marking Goofs' consists of nine prints of captured German aircraft, some of which show the many spurious markings that were applied for various reasons after the war, plus two shots, of a FW190A-5 and a 109G-0 in 'standard' markings which are presumably to show as a comparison the errors on the remaining prints. A photo montage on the Hughes XF-11 is interesting, perhaps completely new and so remote that few European readers would be particularly interested in this machine, which ,after all, did very little and was no progenitor of a later famous machine . . . though one must admit it was a streamlined beauty.

The British price makes this book somewhat expensive.

As a result of the article on the **TAMIYA** kit of the *PANTHER* in Issue No. 3 of *SCALE MODELS* we received many enquiries from readers who were seeking further alternative or 'different' finishes for their model or simple conversions and methods of improving same.

Those enquiries have now been dealt with, but for anyone else seeking such information we strongly recommend the **AFV PROFILE No. 10 'PANZER-KAMPFWAGEN PANTHER V'** *by Chris Ellis and Peter Chamberlain*. Price 5s. (UK).

The cover photographs showing a captured Panther Ausf A being used by the Russians against the vehicle's former 'owners' sets the standard of the very excellent photo coverage of the entire Panther V series contained in this Profile. Versions covered include the Ausf D., Ausf A and Ausf G, together with the Bergepanzer Panther (Armoured Recovery Vehicle) and also the Jagdpanther.

The text is well written and informative and also covers in some detail the technical differences between variants and includes considerable data of interest to the modeller. Apart from the many action photographs there are has others which show close-up details of the tracks, turret cupola and external fittings, as well as others illustrating interior details.

The centre spread colour page drawings by Brittain/Hadler lack all but the elementary German identification cross markings, the camouflage scheme shown for the Ausf G and Ausf A of a type used in Normandy are rather garish and although they may be representative we venture to suggest that if applied to a model this would certainly cause some controversy. Alternative finishes to this are for an overall white Ausf A, as soon on the Russian front and a Jagdpanther which was knocked out by Guards Tank Brigade during the Battle of Normandy.

It is for the photographs and text that we welcome this addition to the AFV Profiles range and the authors are to be congratulated upon finding so much in the way of new data and photographs.

Another recent **AFV PROFILE** was No. 11, which covers the **M3 MEDIUM (LEE/GRANT) TANKS**. *Peter Chamberlain and Chris Ellis are the authors* and the artwork is by Brittain/Hadler. Price 5s.

Like the Profile on the Panther reviewed above, this volume on the Lee/Grant tanks is packed with exciting new photographs and data for anyone wishing to model or convert the **AIRFIX** 1/76 scale Lee/Grant kit then they would find this particular Profile invaluable. The photographs show virtually all the variants and sub-variants of the Lee/Grant series of AFV's and for the modeller the numerous markings and camouflage schemes shown in so many of the photographs would enable him to build up a truly representative selection of both the Lee and Grant as operated on all the fronts of the 39-45 war. The artwork is somewhat better than that for the Panther, showing a Medium Tank M.3 1st Armoured Division 1941, in four views with all markings visible, then side views in desert finish of a 7th Armoured Division Tank in June 1942 and a Grant Mk. 1 Command Tank of 1st Armoured Division, El Alamein, October 1942. Finally, a front view of a Grant carrying the 'Sunshield' device, which was the code name for a combined Hessian and tubular frame which fitted over the basic tank bodywork to give the vehicle the appearance of a Lorry. (A very successful ruse which

was used to 'sneak' large formations of Grants up to the start lines prior to many of the big tank battles of World War Two.

An excellent addition to the range of publications on AFV's and one of the best for photographic coverage. The very latest Armour Profile is **'No. 12 MEDIUM TANKS MARKS 1-111'**, written by Major General N. W. Duncan. It tells the story of the development of the British tank from 1919 to the outbreak of the Second World War and if nothing else shows just how 'cavalry' minded the designers of these vehicles were, a fault that was even more painfully apparent during the early desert campaigns, as covered in the Profile No. 11.

This is a most interesting Profile as the author undoubtedly knows the subject well and presents his facts and figures in a most readable manner. Although no kits exist of any of the vehicles illustrated, some of the more expert scratch builders could well be tempted to model these 'Mediums'.

The centre spread artwork is by Hadler/Brittain and consists of four perspective views of Mk. 1a, Mk. II (three-quarter front and three-quarter rear) and a Mark IIIE1. To the historian this issue will be of immense value, but we would be delighted to see a scratch built model of any of the variants of the Mediums shown.

BELLONA PUBLICATIONS LTD., Hawthorn Hill, Bracknell, Berks. provide most of the armour material for review in this issue and the first item must be *MILITARY VEHICLE PRINTS No. 20* Price 5/-.

This is the first of the new style and considerably enlarged versions of the popular MILITARY VEHICLE PRINTS series and it is immediately recognisable by the new style layout for the cover and the coloured artwork by George Bradford. The number of pages of text have been doubled and the drawings are now presented in two scales of 1/76 and 1/48. The vehicles featured are the Panzerkamfwagen III Ausf 1, the PzKw Ausf M and the Ausf N and the British Cruiser Tanks Mk. II (A.13 Mk. I), Mk. IV (A.13 Mk. II) and Mk. IVA/MK IV A.CS.

There are twelve 1/76 scale views of the PzKw III's and one 1/48 scale side elevation cutaway drawing of this vehicle and the British tanks are illustrated in sixteen views to the smaller size including hull sections and one complete side view to 1/48 scale. Nine excellent photographs illustrate the Panzer III and variants including interior details plus views of 'operational' Mk. III's in Russia and North Africa and the British tank is featured on five further photographs. These, combined with the excellent captions and text give fine value for money at the unaltered price of 5/- per copy. In this day and age of soaring prices it is a genuine pleasure to find an item where not only does the quality improve to a considerable degree; but that one also has extra pages, text and drawings and photographs provided as well.

For anyone contemplating a scratch built PzKw III or really detailing Tamiya 1/21 scale kit of this tank, this booklet is invaluable, we eagerly look forward to Number 21 and other feature issues in this series.

The second newly released book from **BELLONA** is *'PART 2: A SUMMARY OF THE TRANSPORT USED BY THE BRITISH ARMY 1939 – 1945', Gun Tractors, Towing Vehicles and Ambulances. Handbook No. 3.* compiled by M. P. Conniford. Price 8/- (U.K.).

This is the second part in the series devoted to transport of the British Army. (And we are told that due to the popularity of this particular series Messrs Bellona are shortly to introduce a di-monthly series of *BELLONA MILITARY VEHICLE DATA BOOKLETS*. Each issue will contain twenty pages with details of NINE vehicles plus technical information and photographic coverage and side elevation drawings to a scale of 4 mm to one foot, these will be priced at 5/- each).

'Soft Skinned' vehicles have certainly been ignored by the plastic kit manufacturers and we know that many would be scratch builders have only been held up from making models of such equipment through lack of sufficient data. These books by Bellona certainly will encourage those of us who wish to model such types as the range of vehicles covered is most comprehensive. The combination of text, photographs and technical/dimensional details provides a ready source from which to prepare ones own drawings be it for scratch built models or conversions of existing kits.

The types covered in Part Two includes: Morris Gun Tractors (Quads-various) the six wheeled Bofors tractor (Morris CD/SW 30 cwts), Canadian Military Pattern Tractor L.A.A. 30 cwt Chevrolet and Ford types, various A.E.C. trucks and tractors plus the heavier Albion and Mack (American) types.

Bridging vehicles are also included, ranging from a simple converted Jeep to the huge Albions and their various trailers while the book finishes by featuring various forms of Ambulance again with the Jeep to the fore but also including the Humber 8 cwt Light Field Ambulance and the Canadian Ford or British Austin and Bedford models, these vehicles all being ideally suited to being either scratch built or perhaps converted from existing kits, certain models of 'soft skinned' equipment are few and far between and the scope within this particular range of military vehicles is enormous.

Also from the same publisher comes *'GERMAN FIELD WORKS OF WORLD WAR TWO'. Price 18/-. (U.K.)* which is a copy from the original German Field Manual *'BILDHEIT RENZSITLICHER STELLUNGSBAN'* which was the handbook issued to the Werhmacht in 1942/3 explaining how to build and make use of earth works defence systems.

This is a fascinating publication and the text and drawings are faithfully reproduced from the original with the added advantage of explanatory English text and a translated Glossary of German Service Terms. These enable the reader to follow the drawings or plans exactly and the modeller will find much to interest him here in reguards to possible ideas for dioramas, while the wargamer could make a good 'game' by 'defending' or 'attacking' some of the more complex bunker systems.

After D-Day the allies found it very hard going, clearing these obstacles and the battles in the Pacific campaigns were also fought over and around very similar defence systems, having read and studied this book one can now well see why this was so, this is one of the best of all the Earthworks series of books and deservedly could become (indeed should become) the standard work of reference.

The name of B. T. White is well known among students of British arms and armour and the new book *'BRITISH TANKS AND FIGHTING VEHICLES 1914-1918'*, published by **IAN ALLAN LTD.** Price 42/- (NOT 25/- as priced in error in the advert last month!), is automatically recommended to those who are familiar with this author's previous works.

Bellona 'German Field Works' and 'Vehicle Data Book'.

Commencing with the story of the development of the tank one finds a listing of the Nomenclature of British Tanks 1916-1945 together with explanation of abbreviations used throughout the book.

Each tank or AFV is dealt with in one or more photographs accompanied by a detailed history of the type shown including both technical and operational developments and the accompanying table of dimensions and armaments and weight details are also most useful. The photographs are chosen well and the modeller will find much that is new and invaluable to add to his sources of reference. This is more than just a quick guide to the British AFV and one can continually pick up the book and find something fresh and interesting. Mr. White has really delved deep to find new or fresh material on the International Carriers or Bren Gun Carriers while the section on Special Purpose Vehicles makes a conversion enthusiast's mouth water, a new addition then to the growing mass of books on armour; but one that deserves a place on every enthusiasts bookshelf.

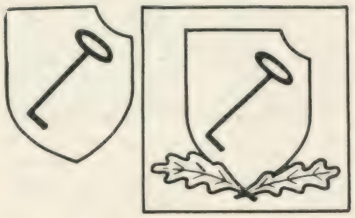
MILITARY INSIGNIA

PART 8

by TERENCE WISE

THE SS DIVISIONS

SS DIVISIONAL emblems were painted on vehicles in the same manner as Wehrmacht insignia but were always in white except when camouflage dictated otherwise. On occasions they were surrounded by the outline of a shield and have been illustrated in this style: those who wish to paint only the emblems on their models can easily omit the shield. There were four shapes of shield, each type of division using a different shape. The Panzer, Panzer Grenadier and Mountain Divisions' shields are shown here: the fourth, Waffen-SS Divisions, will be covered next month. There appears to have been no definite ruling on the use of these shield outlines, but photographs do show a preponderance of insignia without them. Sometimes SS insignia were also painted on a square, khaki background, although this appears to have been only in Russia and was probably to make the insignia stand out clearly against snow camouflage.



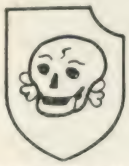
Heading: 2 cm. Flakvierling auf Zgkw 8+2 cm. quadruple A/A guns under camouflage. The vehicle bears the 'Das Reich' Divisional insignia, together with the Flak symbol given in last month's feature. I.W.M. photo EA 33066. Immediately above is the I SS Panzer Division (Leibstandarte Adolf Hitler) insignia, with at right, a variant used in Russia.

✦

I SS PANZER DIVISION (Leibstandarte Adolf Hitler) Originally Hitler's bodyguard, in 1939 this regiment became a motorised brigade and took part in the invasions of Poland and France. In the spring of 1941 it was sent to Greece. The brigade was with Army Group South for Operation Barbarossa, being subsequently transferred to Panzergruppe I for the advance on Rostov. Sent to Europe for a refit, the brigade was made up to divisional strength by August 1942 when it was stationed near Dieppe. At the end of the year it returned to Russia with SS Panzer Korps, concentrating round Kharkov and re-capturing that city in mid-March. After the 1942–3 winter campaign the Division had another refit, rejoining IV Panzer Army in November 1943. It was surrounded in the Kamenets-Podolsk area and rescued by II SS Panzer Korps in the spring of 1944, being sent to France to refit again. It was stationed between Brussels and Antwerp under XV Army when the Allies landed in Normandy and moved to the Caen area, suffering heavy losses later in the Falaise Gap. During the Ardennes offensive in December it came under VI SS Panzer Army, being one of two armoured spearheads. The Division was unable to break through the first day and later failed in its attempt to take Bastogne.

An ex-Austrian Armoured Car (ADGZ 1935-42) taken over by German forces and bearing the well-known SS emblems although no divisional sign is visible. I.W.M. photo, GER 1210.

II SS PANZER DIVISION (Das Reich) One of the three original SS regiments, 'Das Reich' was in the invasion of Poland and in 1941 took part in the drive to Moscow with XLVI Panzer Korps. Later the Division went to France to refit and next saw action in November 1942 when it marched into Vichy France after Allied landings in North Africa. At the beginning of 1943 the Division was ordered back to Russia as part of SS Panzer Korps, concentrating round Kharkov, and that autumn was at the great armoured clash around Kursk. During the winter battles it was surrounded with I SS Panzer Division, rescued by II SS Panzer Korps in March and sent to France to refit. Stationed near Toulouse under XIX Army when the Allies landed in Normandy, the Division was ordered to move north, but was delayed two weeks en route by the French Resistance. Shaken by constant sniping and ambushes, the Division lashed out to commit the atrocity at Oradour-sur-Glane. At first in the Caen area, 'Das Reich' was later switched to halt the American breakout and suffered severe losses in the Falaise Gap. Sent to suppress the rising in Warsaw in August, the Division later took part in the Ardennes offensive and in 1945 was sent to Prague, arriving there the day before the German surrender.



III SS PANZER DIVISION (Totenkopf) The third of the original SS formations, the Death's Head Division was part of Panzergruppe IV during the invasion of Russia and suffered heavy losses in the initial advances, its two regiments being merged into one. Later the Division was sent to the west to refit but in December 1942, as part of SS Panzer Korps, was ordered back to Russia, serving in the Kharkov area under IV Panzer Army and taking part in the Battle of Kursk in the autumn of 1943. Forming IV SS Panzer Korps with 'Wiking' Division, it was sent to Warsaw in August 1944 and in early 1945 attempted unsuccessfully, to raise the seige of Budapest where 50,000 men of IX SS Korps were trapped. (Only 785 men escaped from the city.)

V SS PANZER DIVISION (Wiking) This Division was raised in 1940 after the invasion of France because of the success of the first SS Divisions – the fourth SS Division, 'Polizei', was raised about the same time – starting as a motorised division of three regiments:– 'Germania', primarily Germans; 'Westland', Dutch and Flemish; and 'Nordland', Danish and Norwegian. ('Nordland' later became an independent division: it is covered in next month's article.) 'Germania' was one of the early SS units and took part in the invasion of Poland before forming the nucleus of the new division. 'Wiking' was with Army Group South for the invasion of Russia, coming under I Panzer Army for the attack on Rostov. In December 1942 the Division became a Panzer Grenadier Division and as such was at the attempt to relieve Stalingrad, the drive to recapture Kharkov and the great tank battles round Kursk. In November 1943 it became an SS Panzer Division but was trapped in the Cherkassy Pocket and only broke out after destroying most of its heavy equipment. Some of the Division fought on as a Kampfgruppe but the remainder were sent to Poland to rebuild the Division. In August 1944 'Wiking' helped suppress the Warsaw Rising and in 1945 was present at the attempts to relieve Budapest and hold down the rising in Prague – arriving at the latter the day before capitulation.

Clearly marked insignia of the V SS Panzer Division (Wiking) on an Sd Kfz 231 Panzerspahwagen. Spade, light, and gun shroud detail very handy for modellers (I.W.M. photo STT 354).

VII SS MOUNTAIN DIVISION (Prinz Eugen) Formed early in 1942 this Division was composed of volunteers from Slavic countries and was involved mainly in actions against the partisans on the Eastern Front. It surrendered to the Allies in Yugoslavia in 1945.

A light Armoured Car (Sd Kfz 222) bearing a variant of the I SS Panzer Division emblem. Name 'Walter Schutte' appears ahead of washing up bowl! I.W.M. photo MH 7103.

IX SS PANZER DIVISION (Hohenstaufen) and **X SS PANZER DIVISION (Frundsberg)** The service details of these divisions are identical. In early 1944 the Divisions formed II SS Panzer Korps in France and when I and II SS Divisions were encircled in the Kamenets-Podolsk area in March, this Korps was sent to relieve them, a task it performed successfully. The Divisions were kept in Poland to meet the Russian threat, but when the Allies landed in Normandy, they were transferred, arriving in the Caen area at the end of June. They were withdrawn before the Allied breakout and stationed at Arnhem. Consequently, they were at full strength when the Allied air drop took place in September and were able to isolate the zones at Arnhem and Nijmegen. In December they took part in the Ardennes offensive, being halted at Bastogne.

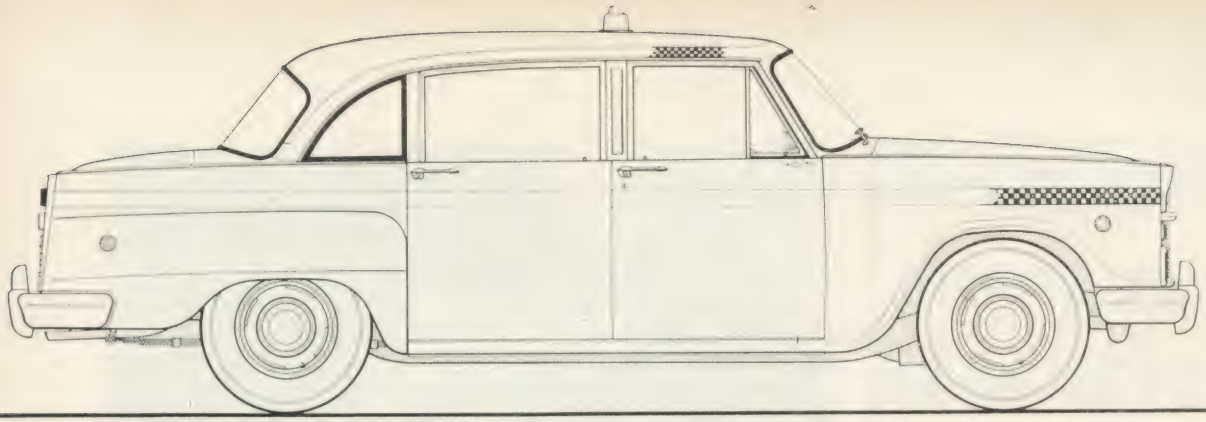
XII SS PANZER DIVISION (Hitlerjugend) This Division was stationed between Paris and Le Havre for the defence of Europe under XV Army. Hitler refused permission to move it on D-Day and the Division did not attack until 7th June, managing to hold Caen with XXI Panzer Division. The Division was later caught in the Falaise Gap where it held open the jaws of the trap long enough for the other SS divisions to escape, but lost 80% of its tanks and men. Refitted, the Division took part in the Ardennes offensive under VI SS Panzer Army, heading one of the armoured thrusts, but failed to break through on the first day. U.S. reinforcements were thus able to arrive and in the next few days the Division practically destroyed itself trying to take Elsenborn Ridge.

VI SS MOUNTAIN DIVISION (Nord) Formed from German volunteers, 'Nord' was stationed in Finland for most of the war and used mainly to supply men to other SS volunteer divisions. Its own replacements were mostly Finnish. When Finland surrendered 'Nord' retreated through Norway and in late 1944 was stationed in Denmark. Part of the Division was present during the Ardennes offensive. 'Nord' later moved eastwards where most of the Division was captured by the Russians.

XVI SS PANZER GRENADIER DIVISION (Reichsführer-SS) The Division first saw action in Hungary in April 1944 and was later sent to Italy as part of XIV Panzer Korps, XIV Army, where, owing to its inexperience, it suffered heavy losses in the fighting after the fall of Rome. In early 1945 the Division was sent to defend Vienna against the Russian advance, and when the city fell, retreated to surrender to the U.S. 3rd Army.

XVII SS PANZER GRENADIER DIVISION (Gotz von Berlichingen) Stationed south of Tours for the defence of Europe, this Division was moved to the Caen area by the end of June. Later it was transferred to halt the American breakout but failed and was reduced to half strength after being caught in the Falaise Gap.

XVIII SS PANZER GRENADIER DIVISION (Horst Wessel) As I SS Motorised Infantry Brigade this formation moved from Poland to Russia in mid 1941, remaining there until early 1944, when it formed the nucleus of the new 'Horst Wessel' Division, created as a volunteer division for S.A. members from Hungary. It took part in Operation Margarethe in Hungary in April 1944 and in August was in the reserve of Army Group South. That autumn it was sent to control the rising in Czechoslovakia and spent the remainder of the war there.



The famous American CHECKER TAXI CAB

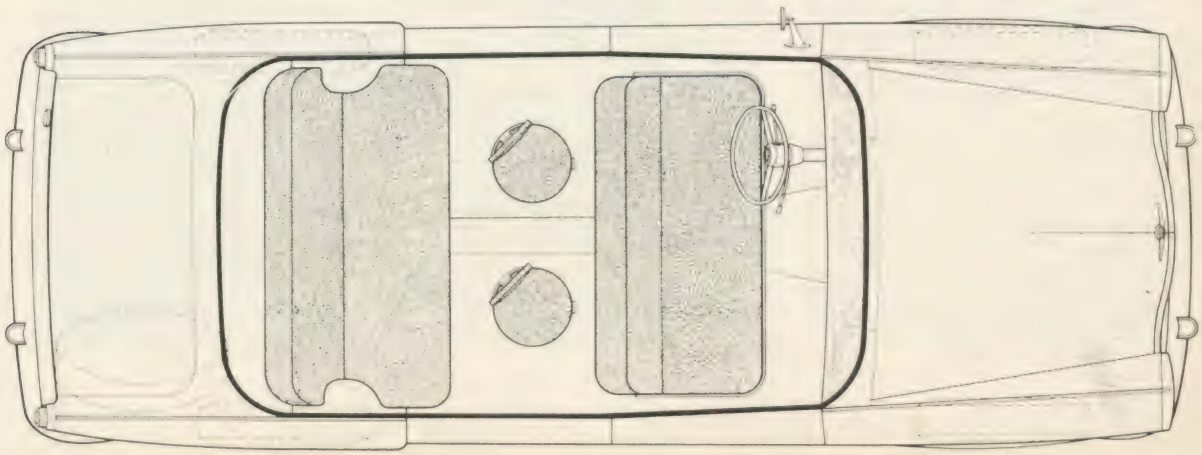
drawn & described by A. H. YOUNG (who provided the Austin F.X.3 Taxi feature in March)

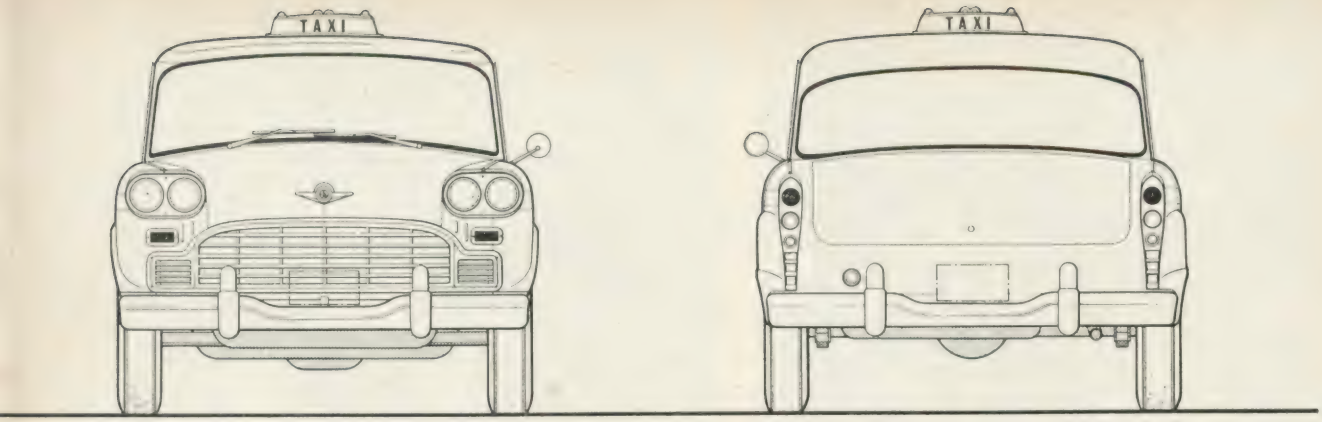
THOSE MODELLERS who also have time to watch television will probably have seen examples of this month's Taxi subject in various programmes and films (including *'To Catch a Thief*, where it is usually cast in the role of transport for the East European 'heavies').

Actually, the Checker is a serious long-established make, accounting for about 25 per cent of Taxis in use in the U.S.A. The Checker Motor Corporation dates back to 1922, when production was started in the ex-Handley-Knight factory at Kalamazoo, Michigan. The company succeeded the Yellow Cab Co., of Chicago, who had built on chassis produced by the company which later became the International Harvester Co. Yellow Cab itself, started as the Waldron W. Shaw Corp., in Chicago in 1912, merging with General Motors Truck Corp., in 1925. The name Yellow Cab was changed in 1930 to General Cab Co., and production was continued until 1938, using standard Chevrolet chassis and body components.

The Checker is (with the Winchester and Austin FX4) one of the world's *only* three purpose-built taxis in current production. Last year the company produced 5,477 vehicles, the majority of which were taxis.

Checker engineering and styling tends to be conservative, stability of design and freedom from planned obsolescence being major advertising claims. There have, for example, been only eight different body designs in 47 years. The current Taxi model has been in production for fourteen years. Early examples, carrying the type number A-8, were powered by a Continental 6 Cylinder 3.7 litre (226 cu. in.) petrol engine, in 95 b.h.p. side-valve and 125 b.h.p. o.h.v. forms. Styling changes have been confined mainly to a change to four headlamps, a new radiator grille, front parking/flashing direction indicator lamps moved from the radiator grille to a position beneath



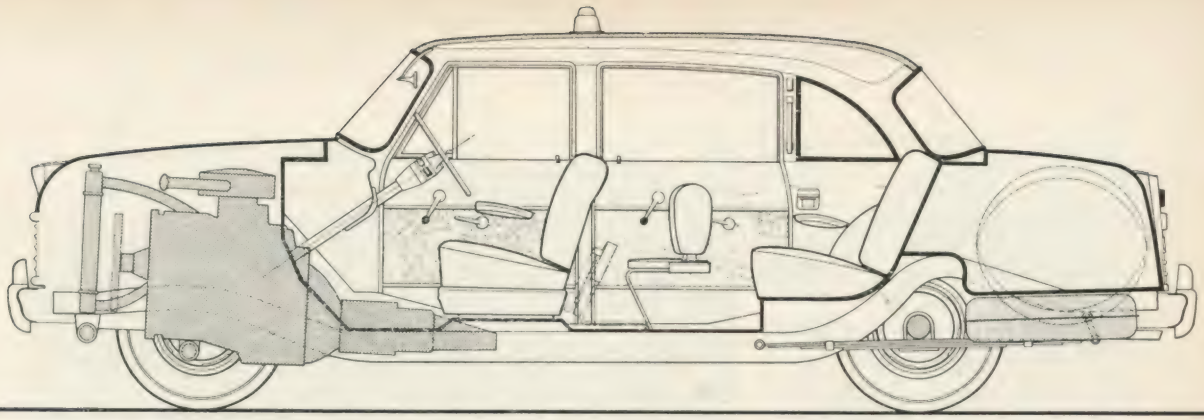


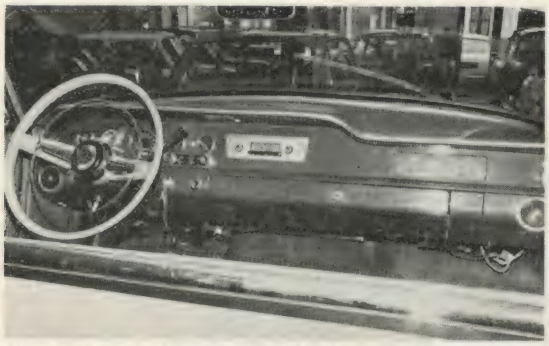
Drawings to 1/32nd scale

the headlamps and the front bumper raised by 1½-2 inches. The windscreen and rear window were increased in height on 1969 models, side-mounted reflectors (amber front, red rear) being added at the same time. For 1970, the reflectors are replaced with lamps, wired into the front/rear lamp's circuit.

Construction of the Checker A-11 is similar in principle to that of the

Interior of left hand drive 1965 model, 129 in. wheel base variant (above and opposite) is below left showing seat fold and grip rail behind front bench. This pristine example is going for £795 at Evans Ltd., Wimbledon. Below right, interior of 1969 model with right-hand drive and full partition plus foot bar over lush deep pile carpet – this is travel with comfort!



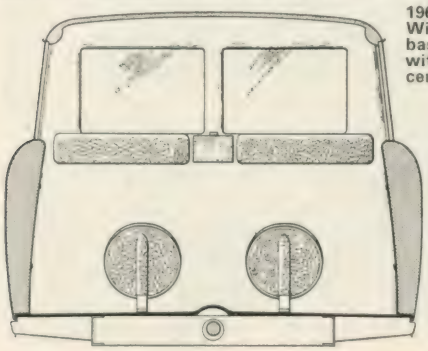


Left and right hand drive compared; latter with screen partition and hard leather seat bench.

Austin FX4, having an all-steel body and separate ladder frame chassis with central cruciform reinforcement. Front suspension is independent by coil springs and wishbones, rear suspension being by 5-leaf semi-elliptic springs and rigid axle. The standard rear axle ratio is 3.31:1. 1970 models are powered by a choice of Chevrolet 6 cylinder, 4.1 litre (250 cu. in.) 155 b.h.p., or V8 5.7 litre (350 cu. in.) 250 b.h.p. petrol engines. A Perkins 4.236, 3.9 litre 88 b.h.p. diesel engine is also available. Gearbox is a Chevrolet/Warner 3 speed automatic, although up to 1969 a 3 speed manual gearbox was also available.

The Checker is relatively expensive compared to its saloon car-based competitors, although it does have a reputation for great reliability and long life. Unlike Austins, Checker Motors build variations on their basic theme, the range including the 120-in. wheelbase 6 and 8 seat A-12 'Marathon' saloon and A-12W estate car, 129-in. wheelbase 9 seat A-11E saloon and A-12E custom saloon and limousine, 154-in. wheelbase 9 seat, 6 door A-12 W6M and 189-in. wheelbase, 12 seat, 8 door (!) A-12 W8M 'Aerobuses'. A 129-in. wheelbase version of the Taxi, called the 'Supercab', is also available, featuring full-size forward-facing fold-down auxiliary seats. Chassis are also supplied for outside specialist bodywork, such as hearses and ambulances (De Giorgi of Berne, Switzerland, having built the latter on 141-in. wheelbase A-12 W6M chassis). A new model in Checker's range is the 'Medicar', based on the 129-in. wheelbase saloon with roof and rear door height raised several inches, with an interior which may be adapted to carry a stretcher, or up to three wheelchairs. An interesting Ghia-bodied limousine was exhibited at the 1968 Paris Motor Show, which may be intended as a prototype for a future production model.

The Checker A-11 Taxi body itself, as will be seen from the drawings, is a four-door, six-light (six window) design, with bench-type front and rear seats, with optional-extra forward-facing circular-shaped auxiliary seats, which fold down behind the front seat when not in use. Standard paint finish is bright yellow, with a three-wide black and white chequered band running around the roof above the drip-rail. A second strip is fitted along the body sides from front to rear. Hire rates are usually prominently displayed on the front doors. Bumpers, overriders, headlamp rims, side lamp rims, radiator grille, rear lamp surrounds, door window frames and the thin strips along the top edge of front and rear wings are all chromium-plated. Service and repair costs are given great consideration in the



1969 RHD version at Evans Ltd., of Wimbledon, has 129 inch wheel base. Interior section of cab at left, with armour plated partition and central safety type fare drawer plus passenger crash pads.

Dash detail and two-pedal controls on RHD version.

Checker, front and rear wing panels being quickly removed for repair or replacement and front and rear bumpers are interchangeable.

Many variations on the standard colour scheme are seen, to suit individual Taxi fleet-operators' requirements. All vehicles, however, have the chequered band at the roof level. Most examples of the Checker Taxi are fitted with an illuminated sign box on the roof and the large range of optional extras include: auxiliary seats, air-conditioning, whitewall tyres, polished wheel discs, power steering, power brakes, power windows, remote-control for rear doors, tinted windows, taximeter and two-way radio. Taximeters, by the way, are normally mounted on the dash panel and all vehicles carry a licence internally, with a photograph of the driver attached. A further option is a full-width Olin Mathieson armour-plated partition between the driver and rear-seat passengers. This partition incorporates two armoured glass windows and a safety fare drawer.

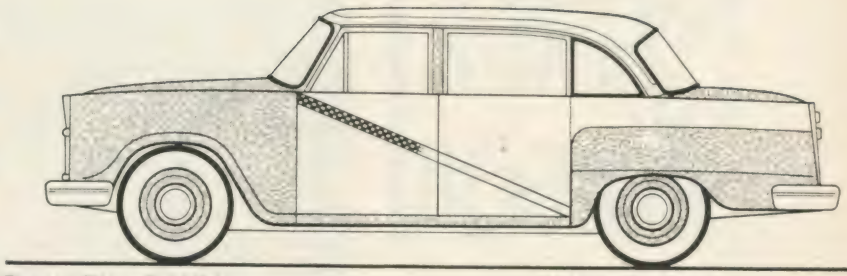
It is possible to see Checkers (but not Taxis) in this country. Evans Ltd., of Wimbledon, who acted as concessionaires, having sold 6 'Marathon' saloons and at present operate a 'Marathon' and three 8-door 'Aerobuses' (renamed 'Aerocar' in England) on hire-car duties. An 'Aerocar' was exhibited at the 1965 Earls Court Motor Show, priced at £2,950 complete with 5.4 litre V8 engine and automatic gearbox.

Finally, my thanks to Checker Motors and Evans Ltd., for their help in supplying information for these notes.

Dimensions:
Wheelbase: 120 inches
Track (front): 62 inches
Track (rear): 62.5 inches
Overall length: 199.5 inches
Overall width: 76 inches
Overall height: 62.8 inches (excluding roof sign)
Turning circle: 37.5 feet
Weight: 31 cwt. (kerb)
Fuel tank: 23 gallon (U.S.)
Tyres: 8.25 x 15 (4-ply)

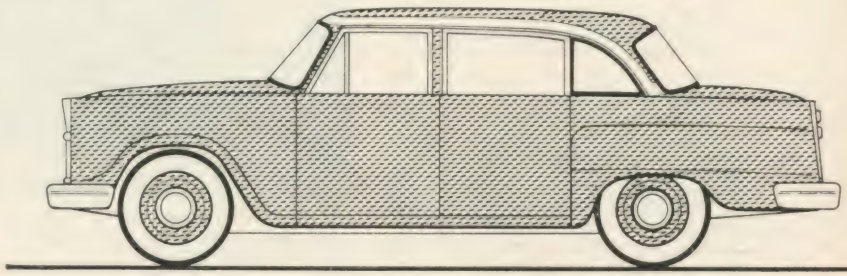
TYPICAL FLEET COLOUR SCHEMES

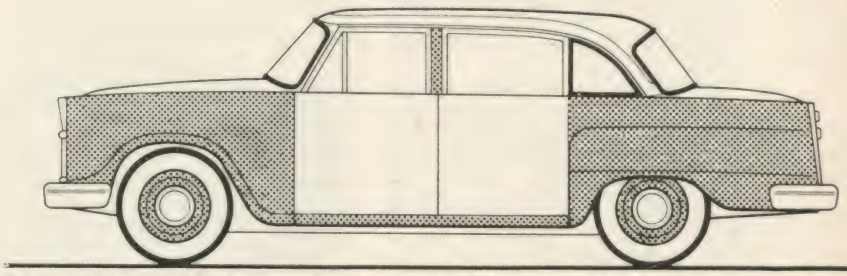
(All cabs have chequered band at roof level)



Body: Blue & White — Wheels: Blue

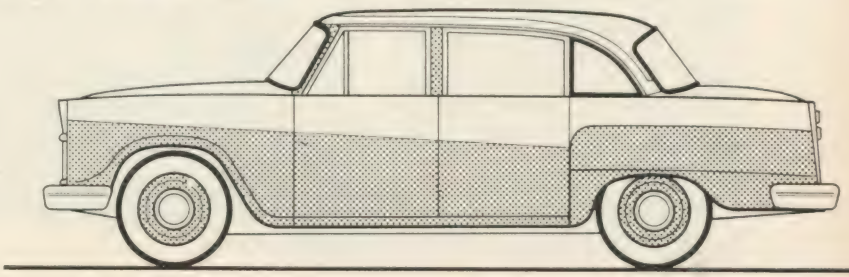
Body: Red — Wheels: Red





Body: Black & White — Wheels: Black

Body: Yellow & Green — Wheels: Yellow or Green



NEW to YOU?

MONTHLY REVIEW OF NEW PRODUCTS BY BOB JONES & ASSOCIATES

IN THE UNLIKELY event of my being invited to choose my Desert Island Discs, writes Geoffrey Deason, I shall opt to pass up the discs and take a couple of 'Showcase Models' instead. Provided that you didn't run out of glue and the weather kept fine, a desert island would be the ideal place for the job; no distractions, no Editor breathing down your neck, all the time in the world. That is the sort of treatment that these models merit.

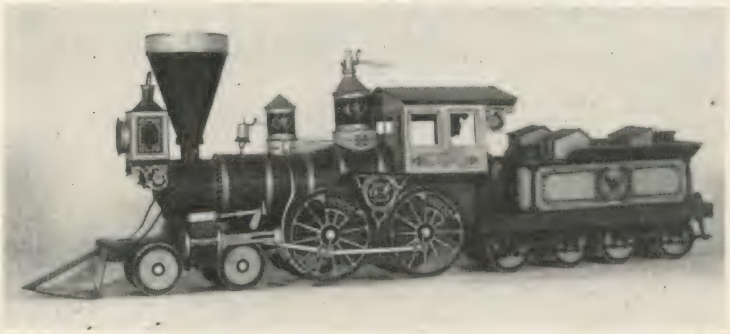
When the Ed. suggested in his breezy, light-hearted way that I should knock off a *Flying Scotsman* and an *American locomotive* from the **HARRIS-EDGE** series for the next issue of *Scale Models* I already had a showmans' engine behind me, and knew a bit about this cardboard cut-out lark. So I craftily approached an office colleague who had been rash enough to show some interest in the road engine, and before he had time for second thoughts, he was landed with the Yankee, and I made a start on the A.3 myself. That was two months and three Swann-Morton blades ago . . .

If I should appear to dwell on the amount of work involved in building these models, this is meant both as a warning and a compliment. A warning to those who are accustomed merely to break a bit off a plastic sprue to obtain a perfectly-finished part, and a compliment to the 'Showcase Models' series for providing so much absorbing recreational activity for so modest a cost.

The finished model is before me as I write, and it looks pretty good from here. Had it been built in the above conditions on a desert island it would doubtless have looked a lot better. Now the Harris-Edge sales brochure speaks disarmingly of *'only an average amount of skill etc., etc., . . . '*. Yes, true, but was it Sir Winston Churchill who said *'All men are equal, but some are more equal than others'?* Just, in fact, as some modellers are more average than others! I am just average, and it shows in places.

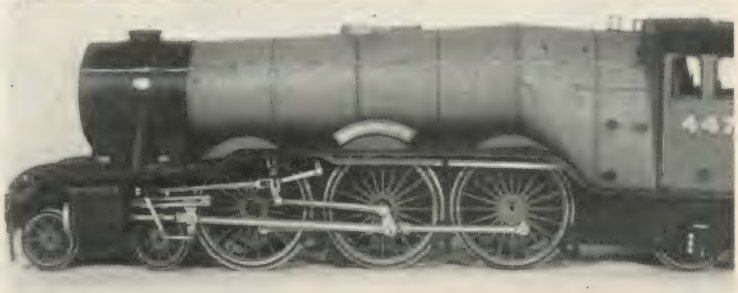
My only real criticism of the Showmans' Engine in the January issue goes for the *Scotsman* also. Life would be that much easier with a good, rigid foundation on which to build, and this could easily be provided if a couple of the 14 sheets of parts were printed on stouter card. The chassis of the model is a long, narrow and rather flimsy box structure, all the tabs of which fold and glue inwards, which makes it tricky to keep square and true, and true it *must* be, or else! The running plate which sits atop of this lot is also a bit floppy, so I nearly abandoned my resolution to build this one by the book, and made a new plate from heavier gauge card stock. Retribution overtook me almost at once, as the valences wouldn't fit under the running plate without some distressing gaps, so they perforce had to be glued to the sides, thus losing that distinctive projecting footplate edge. Ah well, at least I could pick the thing up without crushing the life out of it!

The dear old *Scotsman* rather went to town in the matter of wheels. I mean, twenty of them! As provided in the model these are made up of sixty bits to cut out (not counting spokes, which you go on cutting in your sleep), but they still tend to look 'two-dimensional', so I beefed them up by cutting stout card rings to sandwich between the rims and spoke-discs. This brought the total to 80 bits, not counting the wheel-centres and balance weights, but no matter. The improvement in appearance is really worth it, and I strongly advise any serious modeller to do likewise.



The task was somewhat simplified by the use of my home-made disc-cutter. (See SIMPLE CARDBOARD MODELS – Advert!) The American loco, by the way, provides a better method, to be described later.

The valve-gear is very completely detailed, and looks a bit formidable at first sight. In fact, it is easier than it looks, and is a delight to assemble, completely transforming the looks of the chassis, and providing fresh impetus to get on with the job. Details such as screw-couplings, brake, sanding and buffing gear are a bit tedious to cut and fit, but quite straightforward, a pair of good tweezers being a 'must' for these. Smokebox and boiler present no problems, but the A.3 firebox is a bit of a teaser, particularly as it must fit both the downsweep of the footplate and the larger end of the tapered boiler. Cab and boiler backhead assemble easily, and the cab is furnished with seats on driver's and fireman's side.

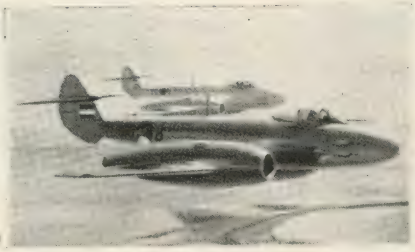


MODELTOYS

PLASTIC KIT SPECIALISTS — ASSOCIATE MEMBER I.P.M.S.

FROG

Gloster Meteor F.Mk.IV



1/72 ... ... 4/9

FROG *re-issued, new decals		
A/W Whitley V/VII	1/72	17/6
A Shackleton MR.3	1/72	22/–
RA-5C Vigilante	1/72	15/–
G.A6A Intruder	1/72	10/6
BAC Lightning 6	1/72	8/6
Phantom F-4K/M	1/72	8/6
F-100D Super Sabre	1/72	8/6
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Whatever Geoffrey Deason and Dave Jones have to say about the hazards of card modelling, their photos of the Harris Edge locos are a credit to fine workmanship.

The old waste-paper basket will, by now, be getting pretty full, and the wise modeller will learn by my mistakes and go through it carefully before the wife lights the kitchen stove with the contents, to rescue all those odd scraps of seemingly waste card which, in fact, contain vital little bits which will be required later. (This, I hope, will forestall those beady-eyed readers who spot small omissions in my model; *don't call me, I'll call you . . .)*

The tender is straightforward enough, after one has braced oneself to the cutting out of eight more sets of springs and brake gear, and discovered which way up to apply the template for fitting the tender lining. However, once more we meet the old problem of keeping the side-sheets flat, (always a risk in card modelling) for despite the rolled-over front and upper edges and the bottom glueing flap, sure enough they will buckle slightly as the glue on the inner faces sets, and show the outline of the tender lining, rather as the site of a Roman fort shows in an aerial photograph. You can either accept this, or add card backing-pieces, which will decrease the inside width of the body. This can be corrected by reducing the width of the lining by about 3/32 in.

Colour printing of the parts is again first-class, and the felt-pen technique is used to blacken cut edges and score-lines, and it is worth adding a green pen to the armoury for use on the green parts. Sellobond White PVA adhesive was used throughout the model. If I were building it again, I think I should fit wire handrails in place of the rather unconvincing stuck-on ones, and make up some less flat-looking vacuum pipes.

Two days after No. 4472 left the shops my colleague, Dave Jones, rolled in with the Yankee job, and a charming little engine it is. A complete contrast to the *Scotsman*, this is a typical pioneer American, with realistic eccentric gear visible between the traditional bar frames. Basically, a much simpler engine than No. 4472, it is nevertheless far more ornate in its trimmings and truly splendid in its decor In fact, we both thought it a tiny bit exaggerated, until I came across a description of the little 'Governor Sandford', the first locomotive built by Norris of Philadelphia for the Central Pacific, when that romantic pike first pushed eastward for the Rockies and its meet with the Union Pacific. The colour-scheme given for 'Governor S', as described in a contemporary newspaper account is almost word-for-word that of the little Harris-Edge engine, which proves once again that truth is often stranger than fiction!

So now over to Dave for his impressions of his first essay in card modelling. He writes:–

'As a newcomer to modelling in the medium of card, I viewed this project with some light-heartedness. My mind's eye conjured up the "run of the mill" cornflake packet cut-out but this idea was soon dispelled when I opened the box.

My first impression was one of delight at the wealth of detail and superb colour printing, my second was awe at the task before me.

As a complete beginner, I decided to stick rigidly to the instructions and I found these quite adequate although the exploded views tended to obscure the exact position of some of the finer detail pieces, for example, the location of the equipment box and filler was a matter of guess work and I'm still not sure whether the completed model is not a perpetual monument to my ignorance of North American Pioneering railways.

The method of constructing the wheels with rims and back rings, although tricky in assembly, was worthwhile for the finished effect; again the position of the wheels on the chassis was left to the discretion of the modelmaker.

I had difficulty in obtaining a clean, circular cut when making the wheels, and although this may elicit gasps of dismay from "the old school" of the card-modelling fraternity, I think that the final effect could be improved by introducing pre-cut "press-out" wheels.

When I finally surveyed the finished article I concluded that the many late evenings were well rewarded, and the one or two unidentifiable components left in the box were only an indication of the generally well laid out instructions, as I expected to have enough left over to make another one.'

A completely new kit is that for the *BREGUET BAC JAGUAR* jet fighter. This kit is produced by **HELLER** of France to 1/50 scale and at the time of writing we do not know if it is yet available outside France.

Moulded in grey plastic, the kit is produced to a very high standard of workmanship with some excellent superfine surface detailing and a most delightfully detailed undercarriage – a very prominent feature of this machine being the rather stalky appearance of the tricycle landing gear.

From the method of assembly it would appear that as the nose section from a point just to the rear of the pilot's cockpit is separate from the remainder of the fuselage halves the kit may appear later in the guise of the two-seat and Aeronavale versions. The general arrangement drawing on the instruction sheet shows aircraft 'A' serial A.01 which are the markings

The AIRFIX range of Skyline series models are fast growing in their popularity. This example is from their recently released Boeing 737 finished by David Williams in the markings of National Airlines, these being part hand painted – and part from Letraset pressure decals. Note the METALSKIN covered wing panels and tailplane which offers an attractive contrast to the silver enamel of the fuselage and wing centre panel work.

provided on the decal sheet included with the kit but the French prototypes for the single-seat version were serialled A.03 and A.04. A photograph in *Air Pictorial* Magazine, June 1969 issue, page 194 shows the *Jaguar A.03* with the i/d letter 'D' and we recommend that modellers refer to this particular source of reference to enable them to complete their model as a specific machine; incidentally, A.03 first flew on 29.3.1969. The British prototypes are illustrated in *Air Pictorial* Magazines for October and December 1969 and we quote these particular sources of references as, not unnaturally, all of the prototype Jaguar aircraft undergo various small changes to the types of fittings carried and often have small sub-fin strakes and similar 'bits and pieces' added during test programmes – the box art on the Heller kit for example shows two strakes just below the rear fuselage under the tailplane but these were only carried on the two-seater French prototypes and thus would *not* be applicable to the single-seat model.

MINIATURE FIGURES

reviewed by J. Cross

TWO new 54 mm. figures recently available are a *95th Rifleman*, and *Grenadier* of the 1st Foot Guards. c. 1800, by **KIRK MINIATURES** of 3 Wynfield Road, Western Park, Leicester.

Pre-animated castings, the detail of these could be improved. Clothing creases are cut far too deeply. Eyes and mouth are just gouged out, giving the face a skull-like appearance. Being priced at 15/– each, they are expensive to buy for conversion purposes.

The Guardsman is cast 'advancing' and as such is out of character, as he is wearing the full dress bearskin cap, with no equipment other than cross

Kirk 54 mm. figures for a 95th Rifleman and Grenadier of the 1st Foot Guards as reviewed above.

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The colour drawings by Kenneth M. Jones show marking schemes for specific vehicles. **12/6**

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Kirk 'German Hussar' war game figure at 5/- reproduced here much larger than life size.

belts, pouch and bayonet. The figure is inaccurate as regards the uniform. The figure, as it is in bearskin cap, should be wearing the high, above the knee, spatterdashes. The pouch is much too small, and is completely the wrong shape.

The rifleman is not very much better. Also cast in the 'advancing' position, the figure is much simpler – and should be, as it is divested of any of the equipment one associates with a rifleman, cartridge box and bandolier, powder horn, sword bayonet, etc., the only equipment being waistbelt and ball bag, or box. The stovepipe shako is huge, and out of proportion.

Of far better quality than the 54 mm. figures are a series of **KIRK** 20 *mm. War Game figures*. Mainly of the Crimean War period, they were illustrated in March issue and are as follows:–

2 *Crimean French Imperial Guards*. 'Advancing' and 'At Ease' positions.

2 *Crimean French Zouaves*. 'At the Ready' and 'At Ease' positions.

British Infantryman 'advancing'. This is a particularly neat little figure with a lot of character to it. Dressed in the familiar 'pork pie' forage cap, and full equipment, Kirk Miniatures appear to have 'hit the button' with this one.

Russian Infantryman 'advancing'. Actually, I think that this should be more correctly termed 'Russian Guard Infantryman', as I believe these were among the few troops to wear the tall, spiked helmet in the Crimea. Line infantry being dressed in the round cap – although I hasten to add that I should not like to be too dogmatic about this.

Russian Caucasian Infantryman. A most unusual figure this, I do not know of any manufacturer producing one in any size. Wearing the low skull cap-type of headdress, trimmed with a wide band of Astrakhan, this figure is positioned in the 'At the Ready'.

Napoleonic Brunswicker of the famous Black Corps in the 'Advancing' position.

Infantryman of the Austro-Hungarian Empire. Not being too familiar with this country, I cannot date the figure, it is cast in an 'At Ease' position.

The figure that has caused me some perplexity is the mounted Napoleonic '*German Hussar*' (painted). The basic casting of the figure itself is quite a fair war game figure, but what particular German State this was meant to represent I do not know, as the figure is cast with a cylindrical shako and wearing breeches, two rather unusual features for a German Hussar of the Napoleonic period. Whether this was made as an all-purpose hussar figure, which could be painted to cover a range of countries of the warring nations of this particular period, I do not know. If it was, it is a good idea. If, however, it was cast as a 'German Hussar' and painted as such, I feel that the manufacturer should be a little more specific in what unit the figure is meant to represent.

The foot figures at 1/– each are good value for money, and the painted mounted hussar at 5/– would have been – for someone who does not like the tedium of painting regiments of cavalry figures for himself – had it been specifically titled.

Obviously, from a one-man outfit, the painted **EM MILITARY MINIATURE** 54 mm. figure of '*The Blues*', 1815 from Ted Mayhew, Turramurra, Aldeburgh Road, Leiston, Suffolk is rather hard to criticise as one is unable to assess the quality of the basic casting. What is pleasant to see, is that the figure is nicely proportioned. The hands leave a lot to be desired, and the sword, sabretasche, and sash tend to be a little 'mucky'. The base could be made of a harder material, as it tends to bend quite easily. However, at 12/6d. for an unpainted casting, anybody that is capable of a little 'doctoring', and a good paint job, could invest in one of these figures. Where Mr. Mayhew does score, is that he sends a colour guide with each of his figures, which is always of great assistance to the person that is purely a figures collector, and painter, rather than a uniform expert. This is something that many other manufacturing houses could well take as an example.

One of the nicest figures I have seen for a long time is the *British Lancer Officer* 1880–1902 by **ROSE MODELS.** A one-piece casting, clad in overalls, hand on hip, the detail comes out beautifully, particularly on the lance cap plate. This is a *must* for any collector of British Army figures, or Rose figures in particular. One small criticism is that the particular casting that I was asked to review was inclined to have a lot of flash around the plume of the headdress, most unusual for Rose figures, which are generally always so clean. We will just put this down to 'one that got away'. The price is £1. 4. 5d., including P.T.

Left, the EM 54 mm. figure reviewed and at right, nearest is Rose Miniature's British Lancer Officer flanked by a Lt. of the 50th Foot 1805 Glasgow Lowland Regiment, with arm bearing hat aloft.

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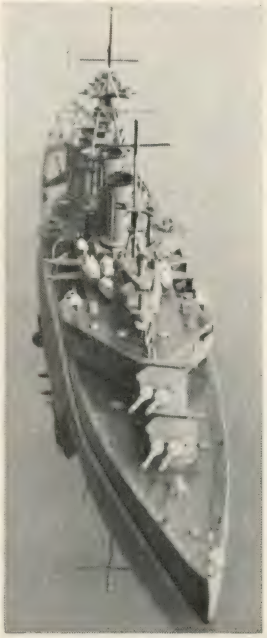

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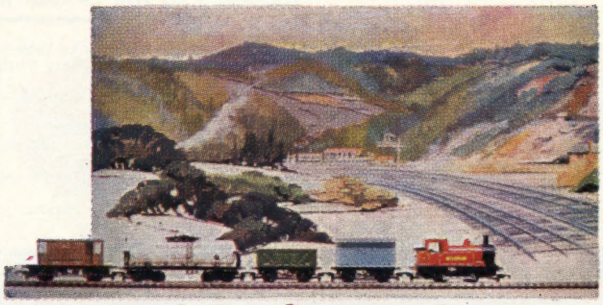

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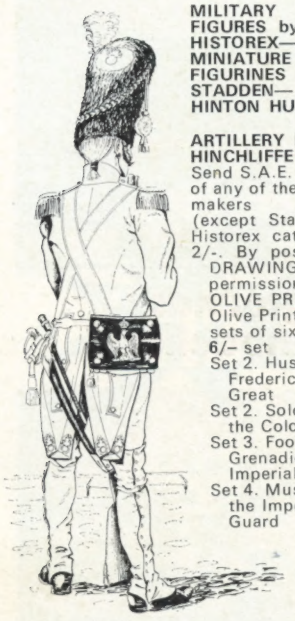

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